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ABSTRACT

Research on nonprofessional personnel in special libraries is reviewed with particular emphasis on the emerging paraprofessional--library technical assistant (LTA)--category, and conclusions are drawn from relevant research on paraprofessionals in other human service fields which may have implications of importance to special librarians. While research on LTA graduates has been limited, some data have been gathered but more is needed on the value of LTA training in job effectiveness, the levels of responsibility given to LTAs, possible competition for professional positions, and the role of the LTA in the special library environment. There is growing nterest in the nonprofessional as a component of special library manpower and this interest is reflected in recent library manpower studies. Almost every aspect of nonprofessional personnel in special libraries needs adequate research, but two areas in particular call for prompt and careful attention: (1) the collection of personnel statistics, and (2) careful consideration of goals and definitions of the professional role. (Author/SJ)

FOREWORD

The Special Libraries Association series of state-of-the-art reviews of research are intended to provide definitive statements on selected problems and issues of major importance to special libraries. It is hoped that these reviews will meet the important needs: 1) of assisting SLA to respond to the desires of special libraries and 2) by identifying significantly needed research to encourage further studies by students and librarians.

The initial series of three reviews--"The Changing Role of the Special Librarian in Industry, Business, and Government," by Janice M. Ladendorf (Graduate Student, Library School, University of Minnesota, Minneapolis, Minn.); "Paraprofessional and Non-professional Staff in Special Libraries," by Elin B. Christianson (Library Consultant, Hobart, Ind.); and "Continuing Education Needs of Special Librarians," by Lawrence A. Allen (Dean, College of Library Science, University of Kentucky, Lexington, Ky.)--were commissioned by the SLA Research Committee during 1972 and conducted with the cooperation and assistance of the American Society for Information Science/ERIC Clearinghouse on Library and Information Sciences. The Committee is now planning a second series of four reviews for publication in 1974.

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PARAPROFESSIONAL AND NONPROFESSIONAL STAFF IN SPECIAL LIBRARIES

ELIN CHRISTIANSON

SLA STATE-OF-THE-ART
REVIEW NO. 2

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ABSTRACT

Research on nonprofessional personnel in special libraries is reviewed with particular emphasis on the emerging paraprofessional (library technical assistant) category, and conclusions are drawn from relevant research on paraprofessionals in other human service fields which may have implications of importance to special librarians.

LTA programs have spread rapidly in some states in the past few years. Surveys of these programs have found that they differ greatly in size and curriculum and that the mortality rate for the newer programs is high.

While research on LTA graduates has been limited because of the few traceable graduates and their relatively short job histories, measures have been made of their employment by type of library, salary ranges, and typical duties. Some data have been gathered but more is needed on the value of LTA training in job effectiveness, the levels of responsibility given to LTAs, possible competition for professional positions, and the role of the LTA in the special library environment.

There is growing interest in the nonprofessional as a component of special library manpower and this interest is reflected in recent library manpower studies which include nonprofessionals. Of particular interest is a study of manpower in health sciences libraries which determined staffing patterns by type of library, educational and experiential backgrounds, and involvement in professional and nonprofessional tasks for both professional and nonprofessional personnel. Although this and other studies indicate that nonprofessionals enter special libraries without prior library work or subject experience, they also indicate that there is a recognized need for education of the nonprofessional and an expressed desire by many librarians for nonprofessionals with junior college education or prior library experience.

One approach to training for nonprofessionals was developed in a project which tested on-the-job instructional packages. Two packages--one on reference tools and one on Russian-English transliteration--were given limited tests and found to be both effective and popular means of training.

The concept of task analysis is being applied to library work and shows promise of being of great value in the efficient utilization of manpower through restructuring of jobs to better fit training and experience, more relevant training for all levels, and a better overall understanding of the work in which library personnel are engaged.

Experience with paraprofessionals in nursing, mental health and social services, and education makes it clear that professional librarians must turn their attention to professional goals and clear definitions of the specific functions which the professional should

perform to meet these goals.

Almost every aspect of nonprofessional personnel in special libraries needs adequate research but two areas in particular call for prompt and careful attention:

1. The collection of personnel statistics on a national, subject, and regional or local basis.
2. Careful consideration of professional goals and definitions of the professional role in light of the division of duties recommended by task analysis studies.

PREFACE

The purpose of this study is to review research on nonprofessional personnel in special librarianship and relevant research on paraprofessionals in other fields in order to determine the "state-of-the-research-art" in this area of special librarianship, to identify gaps in the construct of knowledge about the area, and to suggest the research needed to fill these gaps.

This particular review is one of a series commissioned by the Special Libraries Association Research Committee and supported by the Association and the ERIC Clearinghouse on Library and Information Science (CLIS). Dr. Martha Jane K. Zachert (1971/72) and Dr. Richard D. Smith (1972/73) as chairmen of the SLA Research Committee administered the project.

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1. INTRODUCTION

In order to operate effectively as a source of information, a library must have personnel assigned to it to perform library tasks. The SLA Objectives for Special Libraries state that the quality of the special library's personnel is the most important factor in the effectiveness of the library (1). Therefore, the objective of every special library must be to obtain the best quality possible in its staff. But there are many barriers to this goal, not the least of which are lack of money, limited time, and imperfect manpower supply. Rare indeed is the library without these barriers so it is in the practical interest of almost every library to investigate the ways of achieving top quality personnel with the best use of funds, least waste of time, and optimal utilization of manpower.

In the past several years special librarians along with librarians in other types of libraries have become increasingly concerned with manpower. The information explosion has contributed greatly to the growth of libraries and the demand for their services and placed new burdens on personnel. The application of new technology to libraries has placed new demands on library administrators and added new areas to their responsibilities. The period of professional manpower shortage and the more recent seeming plethora of professional manpower have each in their own way called for reassessment of manpower utilization. There has been growing concern about attaining a higher level of professionalization for librarians. And there has been more and more argument that the library profession must take responsibility for the definition and supervision of the training and education for the complete range of activities within the profession.

In testimony before the National Commission on Libraries and Information Science in December 1971, SLA President Efren Gonzalez listed manpower as one of five concerns of SLA. His statement said: "Projections are needed to determine the nature and level of recruitment efforts for special librarianship. Estimates by location, industry, and education levels will be required and special attention given to the emerging category of 'library technician'" (2).

These factors have contributed to an even closer examination of nonprofessionals in libraries as the numbers of nonprofessional library personnel have increased, as the different types of nonprofessionals have proliferated, and as vocational education programs for nonprofessionals have emerged.

This study focuses on the research conducted on the nonprofessional personnel category to review what we know and what we must find out about nonprofessional personnel in order to obtain optimal use of manpower, plan more intelligently for future requirements, and recommend needed educational programs.

DEFINING THE NONPROFESSIONAL

Traditionally, two broad categories of library personnel have been delineated: professional and nonprofessional. The library profession through its professional associations has long been valiantly engaged in defining and promulgating educational requirements and standards, particularly for the professional category. There seem to be almost as many definitions of professional librarians as there are associations. However, in reality--in the marketplace--these requirements are often not met by personnel who are functioning as professionals.

On a day-to-day basis, the bisection of personnel into professional/nonprofessional categories is readily understood and practiced in the library community. The librarian, considering an individual or staff, can informally place workers into one or the other category. He uses a combination of knowledge of the individual's education, background, experience, and responsibilities to make a judgment.

But it is very difficult to apply these subjective criteria on a broad scale, for example, in categorizing personnel for research purposes. One research study, using the requirement of a master's degree in library science as the only criteria for professionals, ended up with a large category of nonprofessional chief librarians, many of whom had advanced degrees in other subjects.

It is not the purpose of this paper to delve into the intricacies of the debate on librarianship as a profession, the effectiveness of professional requirements and accredited education or the relative merits of ALA and SLA definitions of professional personnel. It is to the point and extremely important to recognize that it is difficult to define the professional librarian category in a practical manner.

Imperfect definition and imperfect recognition of professional requirements exist and complicate analysis of the nonprofessional. Strict application of an educational requirement will artificially place into the nonprofessional category personnel who are operating at a professional level.

Nevertheless, research studies--and reviews of research--must set forth definitions of professional and nonprofessional personnel in order to present data in a meaningful fashion. Therefore, one of the most important factors to be considered in planning or reviewing research is the definition of professional used, how it compares with reality, and how it affects the definition of nonprofessional.

This review will cover research on nonprofessional staff as described in the SLA Objectives for Special Libraries:

> "Nonprofessional staff are responsible for the clerical tasks that support the work of the professional staff. ... Clerical staff members should have a high school education as a minimum and be formally trained in the use of typewriters and other business machines. ..." (3).

The scope of this review will also be extended to the Library Technical Assistant category defined in the ALA policy statement on

"Library Education and Manpower" for which the basic requirement is at least two years of college level study or an A.A. degree, with or without Library Technical Assistant training or similar training and relevant skills. The nature of the Library Technical Assistant's responsibility is supportive to the higher ranks (4).

This review was also to include the ALA supportive category of Library Associate for which the basic requirement is a bachelor's degree, but as the review proceeded, it was found that research on nonprofessionals has been limited to the first two categories and where attempts have been made to classify special library personnel by the ALA policy or to apply the Library Associate category, considerable ambiguity has resulted.

A NONPROFESSIONAL BY ANY OTHER NAME...

Although nonprofessional is the most common term used to describe this category, alternatives abound. Some other popular terms are subprofessional, clerical, supportive staff, library aide, library clerk, library assistant, library technician, assistant librarian, and others. The appellation "paraprofessional" has gained particular favor as a psychological improvement over nonprofessional and subprofessional and for its positive connotation of working along with or beside the professional. "Library technician" has also been widely used, primarily in reference to the library technical assistant (LTA), but also in some instances to denote any nonprofessional or a subject specialist.

Some succinct comments have been made on these terms (5):

(Q.) "I don't like the term 'Supportive.'
"I don't like the term 'Paraprofessional.'
"I don't like the term 'Nonprofessional.'
"I don't like the term 'Subprofessional.'
"I don't like the term 'Library Associate.'
"I don't like the term 'Library Assistant.'
"I don't like the term 'Senior Librarian.'
(A.) Suggestions for the ideal terminology are always welcome."

Although the SLA Research Committee, in commissioning this review, used the term "paraprofessional," it defined the coverage to include the entire range of supportive staff. In other fields, the term "paraprofessional" connotes the technician level. So this review will use the term "nonprofessional" as more indicative of the scope of the review. Library technical assistant (LTA) will be used because it appears to be becoming the standard.

WHAT IS A SPECIAL LIBRARY?

Finally, there is the problem of defining special libraries. SLA recognizes that a special library may exist as: a) A library or information center maintained by an individual, corporation, association, government agency or any other group; or b) A specialized or

departmental collection within a library...(6). Most research studies limit the special library classification to libraries of the first type. But some may include both types. So the study's definition of special library must be considered to identify the scope of the study in terms of what kinds of special libraries are covered.

COVERAGE OF THE REVIEW

Research which yields information on the nonprofessional library worker can be grouped into four areas:

1. Research on the formally trained library technical assistant including studies of LTA training programs and graduates;
2. Research on nonprofessionals by type of library, function, or geographic area;
3. Research on training for nonprofessionals; and
4. Task analysis in libraries.

Because the emergence of the formally trained technician or library technical assistant in the field of librarianship is not an isolated phenomenon but is paralleled in other fields, another area will be:

5. Research on paraprofessionals in other fields with particular reference to the relevance these findings have for librarianship.

The review of research will cover these five areas.

The final chapter will discuss the directions which future research into the role of the nonprofessional in special librarianship may take, basing its recommendations on the information derived in the review.

2. THE LIBRARY TECHNICAL ASSISTANT

BACKGROUND

In the past seven or eight years a great deal of heat--and very little light--has been generated by the library technical assistant. LTAs have been around for years, one librarian has pointed out. It is the emergence and discussion of formal training which has given rise to the controversy (7).

Arguments for the formally trained library technical assistant include:

- -LTAs are an answer to the manpower shortage.
- -They release professional librarians from time-consuming nonprofessional tasks and thus upgrade the professional.
- -A new middle level career in library work has been developed and the nonprofessional career ladder extended.
- -More efficient training can be given in formal programs.
- -The burden of extensive on-the-job training is reduced.

Critics of the formally trained library technical assistant warn:

- -LTAs may become cheap substitutes for librarians.
- -Job classifications do not exist in many libraries for LTAs.
- -The quality of the formal programs varies and can be very poor.
- -The job and salary expectations of LTAs are unrealistically high.
- -Librarians are unable to define what they expect the LTA to do, so how can they define educational requirements for LTAs?

The questions of the definition, role, and preparation of the LTA have been given serious attention by various organizations concerned with library manpower. A number of policy statements, definitions, and criteria for educational programs for LTAs have emerged.

In 1966, the U.S. Civil Service Commission included in its Handbook, the Library Technician Series, GS-1411 in two classes: Library Aide (GS-1411 1-3) and Library Technician (GS-1411 4-7). The GS-1411 Series presented definitions of the nature of positions classed under Library Technician, typical tasks, and experience needed (8).

In 1967, the Council on Library Technology (COLT) was established to offer a means of communication for persons and institutions involved in LTA training, to develop recommendations for core curricula, admission standards, placement procedures, and to work with other associations in defining job classifications and training criteria at the LTA level. COLT has sponsored regional workshops and annual conferences, recently published the third edition of its Directory of LTA programs, and has actively encouraged research on LTA programs and graduates.

The Library Education Division of ALA has issued an official policy statement, Criteria for Programs to Prepare Library/Media Technical Assistants (9). The statement outlines the definition and duties of LTAs and recommends how educational programs should be planned, how advisory committees be formed and used, and outlines requirements for faculty, facilities, curricula, and student selection and placement. The policy was first adopted in 1969 and revised in 1971.

The ALA Office for Education, meanwhile, presented to the ALA Council its statement on Library Education and Manpower (10) which was made official policy by the Council in June 1970. This document includes the definition of LTA cited earlier in this review.

The Medical Library Association issued an "Official Policy Statement on the Training of Medical Library Technicians" (11) in 1967 and adopted its Standards for Medical Library Technicians (12) in 1970. The MLA Standards are generally compatible with the ALA LED Criteria although they call for medical specialization as part of a curriculum.

SLA, while taking no official action, has nevertheless been active in the discussion of LTAs at its conferences and in Special Libraries and has reprinted in the journal the definitions and Criteria as they were issued by ALA.

In summary, the profession has been moving toward asserting responsibility for the definition and supervision of the training and education for the library technical assistant.

But the basic arguments for and against the LTA still exist and cannot be laid to rest without proper research.

RESEARCH ON EDUCATIONAL PROGRAMS FOR LTAs

Research relating to educational programs for library technical assistants has generally been limited to collecting statistics on the number of programs, size of faculties and student bodies, number of graduates, and course offerings. Examination of the published results shows that even this relatively simple census-taking is not an easy task. A continual state of change exists, with new programs initiated or announced and existing programs discontinued almost before the data can be published. And there is a fair amount of non-response, particularly to the more detailed questions, which makes conclusions and comparisons difficult to draw.

The first comprehensive study of programs for the education of library technical assistants was made by John L. Martinson in 1965 (13). His original concern was to strengthen medical library services by means of subprofessional support. Recognizing that such facilitation of the flow of biomedical information was a special case of a widespread problem, the scope of the study was broadened to consideration of the training of library subprofessionals in general.

The goal of the Martinson study was simply to identify the institutions which had established formal classroom training programs for library technicians in contrast to in-service training or undergraduate programs leading to the baccalaureate degree.

The Martinson study is general and only broad conclusions are drawn--he himself called it a reconnaissance mission since at the time there was very little information on such programs. While Martinson summarized his major findings and suggested certain conclusions, the bulk of the report consists of detailed case histories of several of the programs and short reports on the rest. Despite its limitations, the study bears attention because it offers a benchmark from which the growth in library technical assistant training can be assessed and against which later research can be compared.

The North American Library Education Directory and Statistics provides data on library technical assistant programs, faculty, students, and graduates in both its 1966/68 (14) and 1969/71 (15) editions. The NALED survey is a continuation of the series of surveys which originated in 1962/63 with the U.S. Office of Education. The primary purpose of the surveys has been to determine the administrative status of library education programs in the United States and Canada.

The Council on Library Technology has published three editions of its Directory of Institutions Offering or Planning Programs for the Training of Library Technical Assistants since 1968. In the third, 1971, edition (16), COLT undertook to survey all institutions listed about the characteristics of their programs.

Although the findings of COLT and NALED in respect to LTA programs are generally compatible, COLT identified more programs (118) than NALED (67) and response to individual questions was greater in the COLT survey. COLT figures will be used in this review although NALED figures are quoted sometimes in comparison or corroboration.

Research of a more qualitative nature was conducted by B. N. Hensley for his master's thesis at the Graduate Library School, University of Chicago. Hensley surveyed library technical assistant programs to determine how well they conformed to COLT and ALA guidelines (17). He was able to coordinate his research with the COLT survey which was in progress at the same time although responses were not yet complete. Nevertheless, he was able to include some additional detail from the COLT questionnaire which was not reported in the COLT Directory.

A survey of five years' experience with the Drexel Institute of Technology program for library technicians was made by Kenna Forsyth and Mary V. Parr in 1965 (18). Although the Drexel program was generally considered a library technician program, it was actually based on core courses at the graduate level rather than a curriculum geared specifically to the LTA. It was expected that the program would attract persons already employed in libraries. Therefore, it is discussed in the section on research on training of nonprofessional library workers.

Number of Library Technical Assistant Programs

In 1965, Martinson identified 24 institutions which offered instruction at the technical level, 3 which had discontinued such programs, and 2 initiating them. He also briefly noted training offered by Chapters of SLA and the American Hospital Association. All of the programs were under the aegis of junior or community colleges

or other higher educational institutions. Of the 24 existing programs, 13 were in California, 2 in Michigan, and 1 each in Colorado, Illinois, New Jersey, New York, Ohio, Oregon, Puerto Rico, Utah, and the District of Columbia. Most of the programs had existed for fewer than 5 years although a few dated from the 1950s or late 1940s. Some of the newer programs had developed from single courses which had been offered earlier (19).

Comparison of current figures of LTA programs (Table 1) shows considerable differences between the NALED and COLT figures. Both sources include lists of the institutions covered, and comparisons of the two indicate that while COLT was able to obtain more responses in 1971, there are some schools represented in NALED which do not appear in COLT's list. The COLT figure is also slightly inflated by the inclusion of non-operating programs.

At any rate, in the seven years since the Martinson study, LTA programs have developed very rapidly and in 1971 there appear to be over 100 programs in operation. There is some indication that growth is slowing. While 77 new LTA programs were begun in the 1967/70 period, only 7 new programs were developed in 1971 and 4 planned for 1972 (20).

Junior and community colleges continue to be the major sources of these programs although a few are located in universities and technical or vocational institutes (21).

With its large number of junior colleges, California continues to lead in number of programs; 34 states now have or plan programs (Table 2).

While the number of LTA programs has grown, there has also been a relatively high mortality rate among the programs. Martinson found 3 programs which had been dropped. COLT reported the demise of 29 between 1968 and 1971. While Martinson attributed the demise of the programs he examined to administrative problems, COLT reported that almost all respondents for the 29 programs indicated lack of student enrollment and lack of job opportunity (22).

Hensley's survey of LTA programs included 11 of the colleges which had discontinued programs. He too found that insufficient student interest and lack of employment were major factors in the discontinuance of these programs. Hensley also noted that these colleges did not seem to be very well prepared to establish programs, citing the lack of advisory boards, lack of surveys to determine employment potential, and lack of teaching staff (23).

Enrollment

Martinson's impression was that the largest identifiable group of students in 1965 was middle-aged women re-entering the labor force. There were also sizeable numbers of recent high school graduates, also predominately female (24). He also pointed out that "A relatively small, but significant, group of women seek library technician training because of their present or previous employment in commercial or industrial establishments. They are frequently experienced secretaries. ... If the manager...is unable to justify a full-scale library operation on the premises, he is likely to appoint an experienced secretary as

Table 1

NUMBER OF LTA PROGRAMS

Year	Martinson	NALED	COLT
1965	24		
1967		57	45
1968			89
1969			97
1970		67	
1971			118

Sources: Martinson; NALED, 1966/68 and 1969/71; COLT Directory, 1968, 1969, 1971

Table 2

NUMBER OF LTA PROGRAMS BY STATE

State	Martinson 1965	NALED 1970	COLT 1971
Alabama			1
Arizona		1	1
California	13	23	27
Colorado	1	4	3
Connecticut		1	2
Delaware			2
D.C.	1		1
Florida		1	3
Georgia			1 (0) *
Hawaii			1
Idaho		1	1
Illinois	1	4	11 (10) *
Iowa			1
Kansas			2 (0) *
Kentucky			3
Louisiana			1
Maine			1
Massachusetts		2	6
Michigan	2	6	5
Minnesota		1	1
Missouri		1	2
New Jersey	1	2	4
New York	1	2	7 (5) *
North Carolina		1	5 (4) *
Ohio		3	5 (4) *
Oklahoma			1
Oregon	1	1	1 (0) *

Table 2 (continued)

State	Martinson 1965	NALED 1970	COLT 1971
Pennsylvania		4	8 (7) *
Texas		2	4 (3) *
Utah	1	1	1
Vermont		1	1
Washington			3
West Virginia			1 (0) *
Wisconsin		2	1
Puerto Rico	1		
Guam		1	
TOTAL	24	67	118 (106) *

* Includes programs planned. Figure in parentheses indicates number of active programs.

Sources: Martinson; NALED, 1969/71; COLT Directory, 1971

the office 'librarian.' In the New York City area a high percentage of the students taking library clerical courses at Ballard School of the YWCA have this type of background" (25).

In the 1970/71 school year, an estimated 3,300 students were enrolled in 85 reporting LTA programs. Of these, 63% or almost two-thirds were part-time students while only 37% were full-time students. The average program had 39 students while the range of reported enrollments was from 1 to 206 (26).

COLT also collected data on enrollment figures from program inception to 1970/71 and enrollment by sex and age. While COLT reported only total enrollment and enrollment by sex, Hensley tabulated the COLT data for students by age.

Total enrollment in 66 programs from inception to 1970/71 is estimated at about 7,300. Only 4.4% have been men (27). NALED found a similarly low percentage of men (6%) in 60 programs in the fall of 1970.

COLT received data on enrollment by age for only about a third of the programs and Hensley reported the age distribution in his thesis (28).

Table 3

ENROLLMENT IN LTA PROGRAMS BY AGE

Age	No.	%
18-30	861	29.3
31-40	819	27.8
41-50	1037	35.3
over 50	224	7.6
	2941	100.0

Source: Hensley

Recruitment and Selection

Martinson found little attention paid to active recruitment; students had a prior interest in library work through library use or previous work experience and tended to seek out the programs. School catalogs were the main source of information although a few schools produced pamphlets or mimeographed sheets. Martinson observed no adequately supported, systematic recruitment efforts (29).

In 1971, Hensley found little evidence of active recruitment programs. Some schools made no effort at all, others still relied heavily on catalogs and brochures. A few used other media, including campus career counseling offices (30).

Hensley also found that entrance requirements to LTA programs were usually those of the college. Eight of the 61 programs he studied had additional requirements such as typing skills or minimum grades in the introductory course (31).

Curriculum and Staff

Martinson found a general lack of suitable texts and other materials, with most instructors developing their own, based on their own education. The instructors were trained librarians, usually members of the school's library staff. In only two of the schools were librarians employed specifically as teachers. As a result, most of the instructors had to divide their time between their library and teaching duties (32).

Although Martinson did not analyze the various curricula closely, the impression given by the course outlines in his report is one of great variation from school to school. He did suggest that because the programs had been established in response to local situations, they were well-suited to the needs of the particular area they served (33).

In 1967, the Junior College Section of the California Association of School Librarians published a survey of LTA programs in California junior colleges to determine what the curricular offerings

were and what potential hazards or tendencies might be (34). The survey found 18 junior colleges that offered 6 or more units of instruction and 15 that offered fewer than 6 units. There was a great variety of content and organization but common course emphases were fundamentals or introduction, public services, technical processes, and reference. There were a variety of specialty courses, apparently based on local needs. Where a complete curriculum was offered, leading to an A.A. degree in Library Technology, there was often a close tie with the business secretarial program.

Problems noted included the failure of some school administrators and library boards to distinguish between graduate professional courses and clerical or technical courses and a corresponding failure to differentiate course content and presentation in the same manner; an overdependence on library staff for teaching with concomitant overburdening of the staff; and a lack of state supervision of the programs. The study also stressed the importance of the use of local advisory committees for program guidance and support (35).

At the time of the Martinson and California surveys there were no established criteria for the development or evaluation of the LTA programs. In fact, the Library Education Division of ALA went on record against such programs (36). However, shortly thereafter the Library Administration and Library Education Divisions began to reexamine the library technical assistant concept.

By 1968 definitions of library technical assistants (37) and the drafts of criteria for formal programs for LTA training (38) were published by LAD and LED. In 1969 the Criteria for Programs to Prepare Library Technical Assistants (39) was approved by the LED Board and in 1971 a further revision was also approved (40). The Medical Library Association also issued standards for the definition and training of medical library technicians (41).

The impression given by the more recent research is that LTA programs are generally being developed in conformity to the ALA Criteria or at least moving toward meeting the standards. There still is great variation however. The following paragraphs briefly discuss the findings in relation to LTA program conformity to the ALA Criteria.

Goals. The Criteria recommends a goals statement of clearly defined objectives for the program in terms of educational results, reflecting local needs, and in conformity with the Criteria (42). Hensley found only 40 of 72 programs to have such statements (43).

Local advisory committees. A local advisory committee of representatives from all types of libraries and other persons should be established as a first step to review and advise on the LTA program and maintain liaison with the library community (44). COLT found 80 schools had advisory boards of from 3 to 23 members; 47 included non-librarians (45). Hensley found that 44 programs had established advisory committees before the program was initiated. Eight disbanded once the program was underway but ten additional schools formed advisory boards later for a total of 46 programs with advisory boards. Twenty schools had special libraries represented on their committees. Beyond aiding in surveys of local needs and various advisory duties, Hensley found little to say about the roles

of these groups (46).

Faculty. The Criteria specifies a full-time director for the LTA program with at least one full-time faculty member, supplemented by part-time faculty (47). Hensley reported 21 programs with a full-time director. Only three of these had any full-time faculty; 14 had only part-time faculty and 4 had no additional faculty at all (48). Of the 88 schools reporting on faculty to COLT in 1971, 35 schools had at least one full-time faculty member; 54 had part-time faculty only. In all, there were 53 full-time and 261 part-time faculty members with a faculty size range from 1 to 8. The average school had 0.6 full-time and 2.4 part-time instructors for a total faculty of 3 (49). The faculty continues to be recruited primarily from the school's library staff (50).

Curriculum. The Criteria recommends that programs be divided into three areas: general education courses (about 50% of the program); library/media technical specialty courses (about 25%); and courses related to the library/media technical specialty program (about 25%). The areas to be covered in the technical courses include introduction to the field and types and forms of materials, support operations for technical services, support operations for public services, and practical experiences and supervised field work. The content of these courses is described in some detail. The related courses should provide specialization to fit the skills and interests of the student and the employment market (51).

The Hensley survey found that about half (33) of the 61 active programs distributed their courses in the 50-25-25 range. Eighteen programs fell into a range of 30-40% general, 30-40% LTA, and 20-30% related courses; two were in the range of 70% general, 10-15% LTA, and 15-20% related, with the remaining 8 programs not replying or offering a one year program.

He also reported that the recommended core curriculum is generally provided although it is not universally available. Of 57 responding programs, 52 offered an introductory course; 54 offered technical services; 49, public services; 47, the practicuum; and 37 offered all four. Five programs offered these courses only. There were few library-related specialty courses reported. The most frequently reported was audio-visual services by 43 programs. Seven programs offered children's library services. Only one program offered a course in special libraries (52).

The COLT survey reported the number of courses ranged from 2 to 12 with an average of 6.5 courses per program (53).

The Criteria also assumes that LTA program length would be two years (54). There are many programs of shorter duration in operation. According to the COLT survey, with 88 schools reporting, 39 offered an LTA certificate (one-year program) while 80 offered two year degrees--the Associate of Arts, Associate of Applied Science or similar appellation. There is some overlap since some schools offer both certificates and degrees (55).

Table 4

RECOGNITION GRANTED BY LTA PROGRAMS

Type of Recognition	Number of Programs
Certificate only	8
Degree only	49
Both	31
	88 programs

Sourse: COLT Directory 1971

Finally, the Criteria states that it should be clearly understood that there is a difference between the two years of work leading to the library/media technical assistant career and upper-division undergraduate or graduate level courses in library service (56) in terms of preparation for nonprofessional versus professional positions and in transferability of credit.

While Hensley found only two or three programs which he felt begged the question or implied greater career benefits, he concluded that few published statements by the program made such a distinction clear (57).

LTA PROGRAM GRADUATES

It has only been in the last two years or so that there have been enough library technical assistant program graduates to provide a basis for research. Martinson did report his general impressions of graduates in 1965 (58). The NALED 1966/68 (59) and 1969/71 (60) editions attempted to gather statistics on graduates as did COLT in its 1971 survey (61). John B. Nicholson, Jr., and Nathan Breed undertook a survey of LTA programs and graduates for COLT in 1969 (62) but only preliminary results were ever published (63). The most comprehensive study of LTA program graduates was made by John E. James in 1970 and reported at the 1971 SLA Conference and in Special Libraries (64). Although statistics from the James study are included in the initial part of this analysis of graduates, his study contained evaluative information which will be discussed more fully later.

In 1965 Martinson made no estimate of the number of graduates of LTA programs. He surmised that public and school libraries were the largest employers of graduates although there were local differences. In some areas, special libraries were significant employers, he thought. He cited the popularity of the Ballard School program among companies as evidence that business could be one of the major markets for library technicians (65).

In 1966/67, NALED reported 118 graduates from 12 institutions. However, one school, with a credit requirement of only 3 hours, was

responsible for half of the total (66).

James ascertained that in the 1967/69 period there were around 300 graduates in the 59 programs then in operation (67).

The number of LTA program graduates is not clear now either. A number of programs are still too new to have had any graduates. And many programs do not have records of graduates, let alone placement and salary figures. Table 5 shows the various estimates for 1970/71 graduates and total graduates from inception of programs to date.

Table 5

LTA PROGRAM GRADUATES
TOTAL AND ESTIMATES FOR 1970/71

	NALED		COLT		COLT	
Recognition	1970/71	No. of Schools	1970/71	No. of Schools	Total to Date	No. of Schools
Certificate	46	8	171	20	669	26
Degree	303	48	230	41	650	52
Total	349		401		1319	

Source: NALED 1969/71, COLT Directory 1971

It is not easy to make comparisons when each figure has a different base (number of schools) so Table 5 must be examined with caution. Between 350 and 400 library technical assistants were estimated to graduate in the 1970/71 school year. This would be between one-fourth and one-third of all LTAs ever graduated.

Comparing graduates from inception to 1970/71 against enrollment in the same period, one finds that of over 7,300 enrollees (68), only 1,319 have graduated. Even allowing for under-reporting of graduates, overestimation of enrollment [Hensley cautioned that some enrollment figures are based on class cards issued, rather than number of students (69)], and the slower progress of the large percentage of part-time students, it is apparent that there are many students who do not complete the programs.

COLT found only 48 schools able to report the number of graduates employed as a direct result of enrollment in their programs; they reported that 767 graduates found positions. Only 38 schools knew placement by type of library.

Table 6

LTA PROGRAM GRADUATES
EMPLOYMENT BY TYPE OF LIBRARY

Type of Library	COLT	James
College/University	23.8%	31%
School	49.9	38
Public	16.4	13
Special	9.9	17
	100.0%	99%
Base:	567 placements	91 placements

Source: COLT Directory, 1971; James survey

According to COLT figures, half of the LTA program graduates were employed by school libraries and almost 24% were employed by college or university libraries. Only 16.4% went to public libraries. About 10% were employed in special libraries (70). Although the James survey of 1967/69 graduates found different percentages [31% in academic libraries, 38% in school libraries, 13% in public libraries, 17% in special libraries (71)], both surveys indicate college and university libraries and school libraries to be the primary employers of LTAs, accounting for approximately 70% of the graduates.

Salaries

Salary statistics, while also not strictly comparable because of differing bases and different reporting, do bracket the LTA price range. There are factors other than LTA program graduation which affect individual salaries. However, the indications given by the various surveys are that $5,000 - $6,000 would cover most LTA positions. This finding is consistent with the starting salary range of $5,000 - $6,300 for library technicians given by the U.S. Department of Labor in the Occupational Outlook Handbook, 1972/73 edition (72).

Table 7

BEGINNING SALARIES FOR LTA GRADUATES, 1969/70

Period	Salary	Explanation and Source
1968/69	$4,824-6,273	Median high and low salaries, 172 placements. NALED, 1969/71.
1969	$5,708	Average starting salary, 1969 graduates. James.
1969/70	$4,848-6,696	Median high and low salaries, 251 placements. NALED, 1969/71.

Table 8

BEGINNING SALARIES FOR LTA GRADUATES, FALL 1970

Salary	% of Placements
under $5,000	64.75%
$5,100 to $6,000	24.90
$6,100 to $7,000	8.62
over $7,000	1.72

Base: 392 placements by 33 institutions.

Source: COLT Directory 1971

LTA Graduates on the Job

John E. James surveyed library technical assistants who had graduated between 1967 and 1969 to assess graduates' satisfaction with training, duties, and job status and salary changes.

He found that 47% of the graduates were under 30, 10% between 30 and 39, 23% between 40 and 49, and 19%, 50 and over (73). Since the estimate of students under 30 enrolled in LTA programs is only 29.3% (74), it would seem that a greater proportion of these younger students complete the program. It was found that 97% of the graduates were female and 3% were male, which is comparable to enrollment estimates (75).

Of the 154 graduates, 119 were employed in libraries at the time of the survey--91 full-time and 28 part-time. Unable to find jobs, 29 graduates switched to other fields. An additional 30 graduates said they could find no library work after graduation but did so later (76).

Salaries reported by the 91 full-time LTA graduates showed a very wide range, from $2,900 and under (3 LTAs) to $9,000-9,449 (2 LTAs). However, 62% of the salaries fell in the $4,500-6,500 range; 85% in the $4,000-7,000 range. The two highest salaries were paid in special libraries. James found higher salaries in the Pacific region, specifically California, and in the East North Central region.

These two areas have more schools and more employed graduates in the survey than do the other regions. California accounted for 51 or over half of the employed graduates, while the East North Central region accounted for 28. James found that highest salaries were paid in special libraries and school libraries (77).

An interesting sub-sample in the James survey was his breakdown of 34 people who had been employed full-time both before and after the LTA program. He found that the mean salary before the program was $4,089 and the mean salary after the program was $5,351, adjusted for cost of living and inflation. He concluded that the difference in salaries represented a gain of $1,262 for one, two or three years of experience following LTA training. Half of the persons (17 of 34) had been employed in libraries before LTA training. For these people, unadjusted salary changes ranged from $104 to $4,336 (78).

Positions and Duties

The most frequent job titles were library clerk (24%), library assistant (23%), and library technician (18%). Other titles usually included "clerk" or "assistant" although 8 graduates reported their titles to be librarian; two, assistant librarian; and one, head librarian.

The duties of LTA graduates were found to vary greatly. James divided duties into three levels. Level A duties, performed by more than half of the LTAs, included typing, reader assistance, circulation, shelving books, and book repair. Level B duties, performed by 25-49%, included order files, supervision of personnel, photocopying, cataloging, verifying references, accounting records, selection of subject headings, book selection, and preparation of bibliographies. Level C duties, performed by less than 24%, included determination of library policy, interlibrary loan, key-punching and data processing.

The graduates indicated that, for the most part, they felt accepted by the library staff. This feeling was unanimous among the 16 LTAs in special libraries. Twelve LTAs in other types of libraries felt they were relegated to clerical status and two felt they were not accepted (79).

Graduate Evaluation of LTA Programs

Nearly all (95%) of the graduates were happy that they had taken the LTA program and 77% felt that the courses had been good or excellent preparation for their present positions. When asked about the effectiveness of preparation for specific tasks, the preparation for most of the Level A and B tasks was rated highly. Preparation for personnel supervision was rated poor by over 100 graduates although this duty was performed by almost half of the graduates (80).

LTA PROGRAMS IN CANADA

Canada has also seen a growth in LTA programs. In 1967, there were 11 programs in operation in four provinces (81). NALED reported

20 programs in 1970 (82) and COLT, 16 in 1971 (83). (The difference in figures seems to be due to questionnaire response variations rather than discontinuance of programs.) No programs were reported discontinued by either source.

In the 1970/71 school year, enrollment in Canadian LTA programs totalled 1,313 of which 1,072 or 82% were full-time students. Men comprised 10% of the students (84).

COLT found 10 of the 16 Canadian programs with advisory boards of from 6 to 12 members. One board included non-librarians (85).

All programs reported at least one full-time faculty member, two programs had five full-time faculty members (86). The total faculty range was from 1 to 6 full-time, 0 to 8 part-time, 1 to 10 total, with an average of 2.25 full-time, 1.66 part-time and 3.92 total faculty.

The number of courses offered in the 16 COLT programs range from 7 to 19 with an average of 13 courses per school.

In addition to the core courses, 18 of the Canadian programs have courses available in instructional technology; 15 programs offer courses in information science and automation; 5 programs offer courses in special libraries.

The degree offered in these 2 or 3 year programs is the Diploma of Applied Arts or Diplome d'Etudes Collegiales (87).

Despite the apparent strength of the Canadian LTA programs, many of the same criticisms made of U.S. curricula have been made of the Canadian programs.

Of the Canadian schools, 13 reported 167 degrees issued in 1970/71 with 445 graduates to date; 4 programs had not had any graduates. Eight schools were able to report 121 graduates placed in 1969/70 as a direct result of their programs and 215 placed in all. Employers were reported for 126 placements as follows: 36.5% in college and university libraries; 31% in school libraries; 19.8% in public libraries; and 12.7% in special libraries.

The 1970 starting salaries ranged from 27.4% under $5,000 to 72.6% between $5,100 and $6,000 (88).

LTA PROGRAMS IN OTHER AREAS

Both the Martinson study and the COLT directories have included the LTA program at the Puerto Rico Junior College, Rio Piedras, P.R., initiated in 1964 (89) but discontinued in 1970 (90). NALED also lists an LTA program at the University of Guam (91). These programs are included in the earlier discussion of LTA programs in the U.S. and in Table 2.

NALED also covered library education in Mexico and the vocational courses for library technicians and aides offered by the Escuela Nacional de Bibliotecarios y Archivistas (National School for Librarians and Archivists) in Mexico City (92).

A recent international survey of LTA program curricula covered programs at the University of Dakar, Senegal; University of Ibadan, Nigeria; University of Uganda, Kampala; Haile Selassie I

type of associate degree, there are many one year certificate programs and some schools offer both. Courses in library techniques may range from two to twelve.

Only about half the programs distribute their library technology courses in the recommended range of 25% of the curriculum. About a third have a larger proportion of library technology courses. A few have as little as 10-15% of the program in library technology courses.

Although a core curriculum is generally acknowledged, the entire recommended core is not universally available. Technical services, service to the public, and field work are the most widely offered core courses; audio-visual aids is the most common specialty. Other specialty courses are limited although there may be options available in subjects outside the library technology offerings. Local market factors continue to be of importance in determining curricula.

Teaching staff is largely drawn from the institution's library, a fact causing work overloads and a predominance of part-time faculty. Fewer than half of the LTA programs had any full-time faculty at all. The average size of faculty was 3.

Special library influence in LTA programs is not in particular evidence through the research--only one program reported a course in special libraries. Special librarians were reported to be on the advisory committees of 20 programs (out of 80 with advisory committees).

The real measure of the value and success of LTA training is the LTA graduate and his performance in libraries. There is little completed research available, however.

Many schools do not have records of their graduates, let alone job placement information. The highest estimate of the total number of LTA program graduates through 1970/71 is just over 1,300, about equally divided between 1 year certificate and 2 year degree programs. About one-third of these graduates graduated in the 1970/71 school year. Comparing enrollment (around 7,300) to graduates, there would seem to be a very high non-completion rate, even allowing for such variables as under-reporting of graduates, over-reporting of enrollment, and the slow progress of predominating part-time students.

College and university libraries and school libraries have been found to be the predominant employers, together accounting for about 70% of the graduates. Public and special libraries employ the rest.

Salaries reported for graduates are affected by type of library (with special libraries highest), regional differences, and year reported as well as individual backgrounds, but the $5,000-$6,000 range covers most positions. One study, comparing pre-LTA program salaries with post-LTA program salaries, found that, for those who had been employed before training, salaries (adjusted for inflation) increased an average of $1,262.

Only one study of 119 LTA program graduates provided information on the positions and responsibilities of the formally trained LTAs. Most LTAs were in positions whose titles indicated their nonprofessional status, e.g., library clerk, library assistant, library technician. A few had such titles as librarian or assistant librarian.

LTA graduates indicated a wide variety of duties. The most frequently reported were typing, reader assistance, circulation,

shelving, book repair, ordering, supervision of personnel, photocopying, cataloging, verifying references, record keeping, and bibliography preparation. The graduates rated their academic preparation for these duties as good or excellent; however, over half the graduates rated their preparation for supervision of personnel as poor.

Canada has also experienced the emergence of LTA programs. In 1970/71 there were more than 16 programs with 1,300 students who were predominately (82%) full-time. All programs had at least one full-time faculty member; two had five. The average was a faculty of four. The number of courses offered ranged from 4 to 19 with an average of 13 courses per school. In addition to the core courses, the most widely offered courses were instructional technology, information science, and automation. Five programs offered courses in special libraries. Canadian programs are of 2 or 3 years in duration.

Canada reported 445 LTA graduates, with a placement pattern similar to that in the U.S., i.e., most frequent in college or university libraries, less frequent in school libraries, and least frequent in public and special libraries. Starting salaries were also comparable to U.S. figures.

Library technical assistant programs exist in other areas besides the United States and Canada, demonstrating a world-wide interest in formal educational programs at this level.

3. NONPROFESSIONAL MANPOWER IN SPECIAL LIBRARIES

Past research concern with nonprofessional personnel in special libraries has been primarily limited to statistical counts of staff size and professional/nonprofessional ratios. Even in this area, research is scarce.

It has only been in the last few years that serious attention has been drawn to nonprofessionals, their training, and their performance in an effort to determine optimal utilization of library manpower and to plan more effectively for future needs.

It is as difficult to study special library personnel as any other aspect of special libraries. Practically every manpower research study examined for this review points out that it is difficult even to arrive at a complete list of special libraries for research purposes. Many special libraries cannot act as free agents in cooperating with research projects because of their non-library environments. And the great diversity of these environments, the variety of services, and the special character of special library collections make it very difficult to apply uniform criteria of evaluation, either to special libraries alone or when they are included with other libraries.

In studying special library personnel, there are added complicating factors of several paths of qualification leading to de facto professional status which confounds neat categorization; the variety of subject or technical specialists on special library staffs; the sometimes strange non-library-related corporate functions which many special librarians find under their jurisdiction; and the control often exercised by the parent company in matters of personnel policy, selection, and salary, which researchers use as reasons or excuses for poor results.

HOW MANY NONPROFESSIONALS?

What are the basic dimensions of special library personnel? How many people are employed at the various levels? How large are special library staffs? What is the ratio of professional staff to nonprofessional staff? None of these questions can be adequately answered by any one set of current statistics.

The most recent estimate of special library personnel was made in the 1970 SLA Salary Survey (96). While the collection of personnel statistics was not a central objective of this study, the final report included an estimate of personnel by three categories: professional, technician, and clerk. The Salary Survey estimated there were 11,484 professionals, 5,580 technicians, and 11,900 clerks "influenced by members of the SLA" (97). (It should be kept in mind that this survey was based on the membership of SLA

which includes representatives of public and academic libraries, library schools, etc.)

In 1963, Anthony Kruzas collected statistical information on special libraries and information centers, their collections, and staffs (98). Kruzas found 7,672 professionals and 11,071 nonprofessionals (No definition of professional was given in the text.) in 3,633 special libraries serving companies, government agencies, and nonprofit organizations (trade associations, museums, hospitals, etc.)

In terms of size of staff, he found that almost 70% of the company libraries had either no or one professional, 75% of the other libraries had no or one professional, and almost 50% of the government libraries were in the category. No nonprofessionals were reported in 19.2% of the company libraries, 31.7% of the other libraries and 24.5% of the government libraries. Only one nonprofessional was reported at 32.8% of the company libraries, 34.2% of the other libraries, and 24.1% of the government libraries. The majority of special libraries fall into the smaller staff size categories (99).

This finding was later corroborated by a 1967 survey made in connection with the background paper on special libraries prepared for the National Advisory Commission on Libraries (100).

Again, the collection of personnel statistics was not a central point of the study but a questionnaire to a sample of 911 special libraries in the three categories listed above included a question on staff size. Five percent of the libraries reported no staff (sic); 52% had 1 or 2 man staffs; 19%, 3 to 4; 14%, 5 to 10; 5%, 11 to 20; and 3%, 21 or more (101).

Table 9

STAFF SIZE IN SPECIAL LIBRARIES, 1963

Staff Size	Company Libraries		Other Libraries		Government Libs.	
	Prof.	Nonprof.	Prof.	Nonprof.	Prof.	Nonprof.
0	17.7%	19.2%	22.8%	31.7%	8.8%	24.5%
1	52.0	32.8	53.0	34.2	40.9	24.1
2	15.0	18.9	12.6	15.7	17.1	12.6
3	5.9	8.9	5.4	6.9	9.6	10.1
4	2.8	5.3	2.2	3.3	5.3	6.2
5+	6.6	14.9	4.0	8.2	18.3	22.5
Average No. Per Library	1.6	2.6	1.4	1.7	4.1	3.4

Source: Kruzas

STATE AND REGIONAL MANPOWER STUDIES

Until recently, statewide studies of library manpower concen-

trated on professionals. The recent surge of interest in nonprofessionals has resulted in the inclusion of both types of personnel in more recent studies. Unfortunately, these state studies are few in number and the usefulness of the data varies by the survey methods and definitions used.

Local studies to determine employment opportunities in libraries have been made for or by the institutions offering or planning library technical assistant programs. Many of these studies are relatively informal and few are generally available. Their quality and content varies from "guesstimates" to full-scale studies covering positions, vacancies, salaries, and forecasts of requirements. Three of these local or regional studies are described to indicate the type of information they provide.

Library Manpower in Tennessee

In 1971, a survey of all Tennessee libraries (102) was conducted in an effort to determine the manpower needs of Tennessee libraries and the classification of all library personnel on the basis of the new ALA categories (103), the definitions of which were included with the questionnaire. The results of this survey, while useful in some respects, indicate the hazards of trying to follow the ALA definitions and the manner in which they obscure the picture, particularly for special libraries. This is not meant to be a criticism of the ALA definitions; it is presented as an illustration of the problems involved in their application to measurements of special library personnel.

The Tennessee survey included 72 special libraries. Special libraries were defined as company, government, or association or institutional libraries (104).

Table 10

SPECIAL LIBRARY MANPOWER IN TENNESSEE

Category	No.
Professional	54
Supportive Staff	141
Library Associates	37
Library Technical Assts.	22
Library Clerks	82

No. of Libraries (72)

Source: Ward.

In the 72 special libraries in Tennessee, there were only 54 persons in the professional staff category. Even allowing only one professional per library, one-fourth of the special libraries would be

considered to be without professional personnel. There was only one vacancy reported for this level. It seems that there are nonprofessional professionals lurking in the supportive staff categories. There were 37 persons in the Library Associate group, 22 at the LTA level, and 82 at the Library Clerk level (105). Little evaluation of the state of special library manpower can be made on the basis of the information given by these categories alone. Information about the job responsibilities of these personnel must be added in order to determine how many workers are employed in a professional capacity and how many in a nonprofessional capacity. The Library Associate category is particularly confusing. This problem seems to have been evident to the author in analyzing the data for the other types of libraries because summaries were included for "Library Associate and Above" as well as for the Professional and Supportive Staff categories.

Nonprofessional Personnel in Indiana

A library manpower study conducted in Indiana presents a clearer picture of employment and manpower needs for special libraries in Indiana but only for nonprofessional staff. Concentration was on the library technical assistant and library clerk categories. General descriptions of these categories, approximating the ALA definitions, were provided the respondents. This and the obvious focus of the research on the nonprofessional allowed the responding librarians to present meaningful information on nonprofessional staff.

In 1969, the Office of Manpower Studies, Purdue University, undertook, in cooperation with the Indiana Library Association and the Indiana Chapter of SLA, a survey of libraries in Indiana to ascertain present employment and future needs for library technical assistants and library clerks, salaries, levels of training desired, and opinions on certification for library technical assistants (106). (Indiana has certification for librarians.)

The 31 special libraries reported 20 library technical assistants employed, vacancies for 9 and an estimated market for 9 per year for the next five years. There were 32 library clerks employed with current vacancies for 11 and an estimated need for 11 per year. On the average, there were one LTA and two library clerk jobs (both filled and vacant) per special library. (This ratio held generally true for all types of libraries surveyed in this study.) (107)

The average monthly salary for an LTA in a special library was $487 ($5,844 per year); for a library clerk, $411 ($4,932). Special libraries offered the highest salaries for both categories, well above the overall average of $426 ($5,112) for LTAs and $320 ($3,840) for library clerks. (Low monthly salaries in the many small public libraries pulled these averages down. School and college/university library average salaries in these categories were higher.) (108)

The respondents were asked to identify the level of training expected of library technical assistants and clerks in formal training programs. The respondents essentially agreed that library technical assistants were expected to perform at higher levels than clerks. They would work on occasion above the routine and have the

ability to solve some problems and advise others in certain cases; clerks were largely expected to accomplish assigned tasks and routine duties.

LTAs were expected to perform most capably in circulation procedures, knowledge of bibliographic tools, audio-visual services, services to users, periodicals procedures, cataloging and ordering procedures, in that order. In addition, secretarial duties were written in by many respondents. Special librarians indicated interest in computer operations and medical terminology. In the library clerk group, the ranking of these subjects was similar with, of course, a difference in performance level (109).

Certification was favored for library technical assistants by 85% of the responding librarians. It was found that 73.1% of the of the special librarians favored certification (110).

On the basis of this study, it was recommended that library technical assistant programs be developed and offered in Indiana, particularly in the northern and central regions where the market was strongest. Shorter programs for training clerks were also recommended (111).

Sauk Valley College Area (Illinois)

The survey of the employment opportunities for LTAs in the area served by this college was directed to all types of libraries and elicited information on the librarians' attitudes toward the program, plans to recruit and employ LTAs and estimates of how many LTAs would be needed over the next five years.

The primary market was found to be in school and public libraries. There were no company libraries in the area. Two hospitals maintained libraries and one of the hospital libraries indicated it might need as many as three LTAs. Overall, a potential of employment for 58 to 71 LTAs was estimated and this was judged to be sufficient to provide for graduates of the LTA program (112).

Sierra College Area (California)

The survey of library personnel in the Sierra College area (which included the Sacramento metropolitan region) was based primarily on personnel figures available in various reports although a few libraries were contacted directly. Personnel figures for special libraries were most often missing. The survey identified 309½ professionals and 775 other (presumably nonprofessional) personnel in 167 libraries, including 27 special libraries, mainly in the Sacramento area.

The conclusions based on this sketchy body count were that in view of the current library employment of over 1,084 persons, there was a good market for LTAs in the area; the Sierra College program could also serve as a source of continuing education for library personnel; and that the special libraries would prove especially attractive to LTAs because of their metropolitan locations and good salaries (113). This optimistic conclusion must have been largely based on intuition rather than the data.

San Bernardino Valley College (California)

The survey of nonprofessional library employment in the Inland Empire area around San Bernardino Valley College provided a much better data base for conclusions about the employment potential in the area than did the Sierra survey. The San Bernardino survey was based on a questionnaire to all types of libraries and resulted in a compilation of the number of nonprofessional positions by title, starting wage and salary range, clerical skills required, and education and experience requirements. There were 637 nonprofessional positions listed in the survey, of which 43 were in special libraries. Of these 43 positions, two required a BA; 13, junior college; 26, high school and previous library experience required or desired; only two positions required high school and no experience needed (114).

NONPROFESSIONALS IN HEALTH SCIENCES LIBRARIES

The most comprehensive effort to date in research on special library manpower, professional and nonprofessional, has been in the health sciences. Three major, somewhat inter-related studies have been conducted recently. Two were directed to the collection of basic data on health sciences libraries, including staff. One had as its central purpose health sciences library manpower.

In 1969, the American Medical Association with the aid of the American Hospital Association and the cooperation of the Medical Library Association, undertook a survey to establish the universe of health sciences libraries and provide basic data on resources, staff, and expenditures. It is expected that periodic surveys will be conducted to provide continuing series of data on libraries in the health sciences (115).

This survey resulted in the publication of the Directory of Health Sciences Libraries in the United States, 1969 (116) and a statistical profile of the libraries (117). Since an extensive analysis of manpower in health sciences libraries has been published by the Health Sciences Library Manpower Study (Ref. 122), only brief attention will be given to the manpower information published in the statistical profile and discussion limited to data that add to information in the Manpower Study.

Personnel categories in the AMA survey were based on the following definitions. Professionals are library staff members in positions which require training and skill in theoretical or scientific aspects of the library's work. Nonprofessionals exclude maintenance personnel but include clerks who perform duties requiring special skills but not the knowledge of the theory of library work. Student Assistants are part-time employees engaged in nonprofessional duties (118).

In 1969, 99 medical school libraries employed 566 professionals and 905 nonprofessionals. The number of professionals employed had increased 45% and the number of nonprofessionals employed had increased 33% since 1966. Median salaries in 1969 were $9,700 for professionals and $5,200 for nonprofessionals (119).

Health sciences libraries of professional societies, voluntary health organizations and foundations employed 170 full-time professionals and 97 full-time nonprofessionals. The libraries average two full-time staff members but there was a great range, from one part-time professional to a full-time staff of 50. The number of one-man libraries was relatively low, about 19% of the total (120).

Pharmaceutical company libraries (96) were found to have an average staff of 3.4 (121).

The Health Sciences Library Manpower Study was begun in 1968 under the direction of Dr. David A. Kronick of the University of Texas Medical School at San Antonio, assisted by Dr. Alan M. Rees and Mrs. Lesliebeth Rothenberg of the School of Library Science, Case Western Reserve University. The study was sponsored by the Medical Library Association and supported in part by the National Library of Medicine.

Its purpose was to plan for health sciences librarianship, project future manpower demands and needs, and to recommend educational programs for health sciences library workers, professional and non-professional. A series of studies were made, each building on the previous one, to identify health sciences institutions and their libraries and characteristics of the personnel (122).

Number of Personnel

The study identified 14,000 health-related institutions and programs which had access to 4,727 libraries. These libraries employed 14,938 workers (123).

Table 11

HEALTH SCIENCES LIBRARIES AND PERSONNEL

Institutional Setting	No. of Libraries	Library Personnel		
		Professional	Nonprofessional	Total
Hospitals	2,628	3,259	2,602	5,861
Outside of Hospitals	1,328			
Public & Academic with Health Sciences Dept.	771	2,793	6,284	9,077
Total	4,727	6,052	8,886	14,938

Source: Kronick. Part III

The ratio of professional to nonprofessional personnel varied by type of library. In libraries affiliated with educational institutions, the ratio was 1 professional to 3 nonprofessionals (1:3). In government, commercial, and independent libraries, the ratio was 1:1, while in hospital libraries, the many one-person libraries produced a ratio of 1:0.8 (124).

Approximately 65% of the libraries had 3 or fewer personnel and

about 20% reported no professional personnel at all (125).

A more detailed look at the characteristics of personnel in health sciences libraries was provided by two mail surveys directed to the personnel. The study team limited their survey to health sciences libraries located outside of hospitals because the American Hospital Association was in the process of surveying hospital libraries. However, the AHA data was made available for analysis by the Manpower Study and the AMA.

Personnel in Hospital Libraries

The survey of hospital libraries identified a total of 4,315 libraries. Excluding patient libraries, about 20% of the total, there were 3,211 libraries. The 4,315 libraries reported 2,872 librarians. Only 30% of these librarians had BAs, and only 26% had MAs or better. Therefore, 44% of the librarians held no college degree of any kind (126). Since the librarian designation obviously was not based on educational standards but on respondent interpretation, it is difficult to make professional/nonprofessional comparisons. Nevertheless, it is obvious that with only 67% of the hospital libraries reporting librarians and only 26% of these having MA degrees, there is a great deficiency of qualified personnel in the view of the library community.

Table 12

HOSPITAL LIBRARY PERSONNEL

Category	Salaried FT	Salaried PT	Contributory FT	Contributory PT	Volunteer	Total
Librarian-in-charge & Asst. Ln.	2,028	1,137	95	319	1,778	5,357
Clerical & Other	1,008	1,516	61	388	2,237	5,210
	3,036	2,653	156	707	4,015	10,567

Source: Kronick. Part V. Table 10

Table 12 shows hospital library personnel by designation and salary status. Both part-time and non-paid personnel comprise very significant proportions of the work force in hospital libraries with almost half of all employees either contributory or volunteer. In addition, almost half of the salaried employees are on a part-time basis (127).

Personnel in Other Health-Related Libraries

The survey directed to personnel in other health sciences libraries resulted in valuable insights into the demographic,

educational, and vocational characteristics of professionals and nonprofessionals in these libraries.

Of 2,641 respondents, 985 or 40% were professionals (with a library science degree) and 1,476 or 60% were nonprofessionals. Among the chief librarians (in charge of a library, either as a sole individual or with responsibility for the supervision of others), slightly less than half were nonprofessionals, that is, without a library degree. Some of these nonprofessional chief librarians undoubtedly have subject degrees as indicated by the educational attainment shown by the nonprofessionals (128). Here is another example of the difficulty in trying to define professionals.

Of the nonprofessionals, 25.77% had at least a high school education; 28.57% had some college; 19.97% held a bachelor's degree, 13.2% had completed some graduate work, and 9.5% held graduate degrees. Only a small proportion of the nonprofessionals had majored in the natural or health sciences (129). The fact that 89% of the nonprofessional respondents reported that they had not worked in health sciences libraries prior to their present employment indicated that considerable on-the-job training is required (130).

Personnel in health sciences libraries outside of hospitals are predominately full-time employees with a median nonprofessional tenure of 2.82 years. Job mobility and geographic mobility were generally low. Only 3.5% of the nonprofessionals were volunteers. The mean income (year not given) was $6,510 for nonprofessionals (131).

Approximately 43% of the nonprofessionals had attended one or more continuing education programs during the past five years, compared to 75% of the professionals. The lower record for nonprofessionals was attributed to lack of courses designed for the specific needs of this group, lack of motivation, and failure of libraries to provide release time and/or funds.

When asked to express preferences for specific subject topics for continuing education programs, nonprofessionals ranked reference services; selection, acquisition and organization of materials; automation; and circulation as of most importance. When these preferences were compared statistically to the chief librarians' assessments of skills most difficult to find in library personnel, they matched very closely. The expressed preferences of nonprofessional library personnel for areas of continuing education correlated closely with the chief librarians' perceptions of staff deficiencies (132).

The survey also attempted to investigate the area of manpower utilization by means of an abbreviated inventory of tasks selected to represent the entire range of library jobs from high level professional to low level nonprofessional.

Respondents were asked to check their involvement (primary or secondary) in 27 tasks. In the analysis, these tasks were grouped into four categories: high professional, low professional, high nonprofessional, and low nonprofessional. Each task was assigned a weight reflective of its degree of professionalism. For example, primary involvement in policy determination, a high level professional task, carried a value of +4. Shelving and stocking, a low level nonprofessional task, had a value of -4. When the sum of values for an individual's tasks were computed, a positive score would indicate

a greater involvement in professional tasks, while a negative score would indicate a greater involvement in nonprofessional tasks (133).

Job-Task Index scores were analyzed for 116 libraries with five or more respondents. It was assumed that only library staffs of this size could display measurable evidence of a division of labor among employees (134).

The index was found to differentiate among personnel groups as defined by education with the mean score showing a decline (from positive to negative) from professional to nonprofessional. However, the ranges of scores of the groups were similar with some persons in each group performing jobs at the same professional level. Some professional librarians had negative scores, indicating that they were largely engaged in nonprofessional tasks. Nonprofessionals, on the other hand, were expected to have negative scores and did. They also had some positive scores, ranging as high as +3.5 out of a possible +4 (135).

The general conclusion drawn by the survey team from the application of the index was that these library personnel are often employed in tasks inconsistent with their professional status, chief-librarian status, income, and age. This in turn leads to loss of professional talent and loss of professional status to librarianship (136).

NONPROFESSIONALS IN COMPANY SCIENCE LIBRARIES

Nonprofessional personnel in scientific and technical libraries in industry were surveyed by Charlotte Green for a master's thesis at Long Island University (137). A summary of the study has appeared in Special Libraries (138).

This study examined the background, duties, and status of nonprofessionals in industry science libraries with a staff of five or more and included evaluations of the staffs by the library administrators. The libraries were selected from the chemical engineering, health sciences, metals, petroleum, and science-technology libraries in the New York area.

The study included 65 nonprofessionals in 16 libraries. The administrators of these 16 libraries and 5 other science libraries provided the staff evaluations through questionnaires and personal interviews (139).

Total staff size in these libraries ranged from 5 to 35, with from 1 to 13 professionals and 2 to 22 nonprofessionals. The ratio of professionals to nonprofessionals ranged from 1:0.27 to 1:4; the mean professional/nonprofessional ratio was 1:1.5 (140).

Education and Background

Of the 65 nonprofessionals, 52 or 80% had only a high school education, 9 (13.8%) had some college, 2 (3.1%) held junior college degrees, and 2 (3.1%) held college degrees. None of the nonprofessionals had any prior science library experience and 86% had no

prior library experience at all (141).

Almost half of the nonprofessionals indicated that they had no formal on-the-job training. An additional 23.1% indicated that training was continuous through experience. Only 29% indicated a formal on-the-job training period. One nonprofessional had taken courses in library clerical techniques (142).

Job Titles and Duties

Job titles varied and often were given according to company policy rather than library policy. About half were identifiable as library-related titles, half as office clerical titles. In the former category, the most frequently given title was Library Assistant (5 times). In the latter, Clerk-Typist was used 6 times (143).

The most frequently mentioned duties were typing and secretarial duties and activities relating to periodical collection maintenance, each reported by over 40% of the respondents. About 30% listed acquisition, circulation, and filing. Between 15 and 20% named mail processing, photocopying, reference service, binding, interlibrary loans, and shelving and weeding (144).

Salaries

Salary statistics were obtained from only 14 of the respondents. The range of annual salary was from $4,000 to $8,000 with the mean about $5,600. The high salaries were reported by personnel with many years of experience (145).

Library Administrator Evaluations

The majority of the library administrators considered the duties of their nonprofessionals to be more than just clerical routines yet not professional. They felt that special library routines were more specialized than those in other types of libraries. The administrators were generally satisfied with the educational and experience levels of their personnel and preferred on-the-job training.

However, the library administrators did believe that courses in basic library skills and/or library technology programs would be of value to their nonprofessionals, but pointed out that such courses were not always locally available. A few feared that library technology courses would overqualify nonprofessionals and such courses would not be geared to the needs of scientific and technical libraries (146).

More than half of the library administrators stated that their professionals performed duties that might be performed by nonprofessionals (147).

Finally, they expressed their concerns about relations with their management, generally, in justifying the library's importance and specifically in dealing with personnel policies and procedures (148).

LIBRARY TECHNICAL ASSISTANTS IN LIBRARIES

The James study of library technical assistant program graduates (149) is covered in detail in the section on LTAs. It is also of relevance in considering nonprofessionals in general since it describes the position of the LTA graduate in the library. The job titles, salaries, and duties performed by the LTA graduates are very similar to the picture given in the Green study of nonprofessionals without such specialized training.

The study of LTAs and library clerks in Indiana, while indicating common areas of responsibility for these two groups, indicated there were differences in the level of work and salaries between LTAs and clerks (150).

NONPROFESSIONALS IN CATALOGING

In 1967, the Cataloging Policy and Research Committee of the Cataloging and Classification Section of the Resources and Technical Services Division of the ALA authorized a survey of the use of nonprofessionals in cataloging. The cataloging operations of five large university libraries were studied.

In all five, the use of nonprofessionals for cataloging was well-established and likely to be expanded. Duties performed included pre-cataloging searching, routine cataloging, and filing cards. All of the libraries had operative and well-defined personnel classification schemes. Educational requirements began with high school graduation and advanced for higher level nonprofessional positions. In the lower levels, little or no experience was required. All nonprofessionals were trained on-the-job with the training periods extending from one to four months for filers, two to six months for searchers and staff working with added volumes and copies, and up to a year for catalogers. Four of the institutions drew their employees primarily from student wives and experienced relatively high turnover. The fifth recruited other married women whose husbands held jobs elsewhere in the area and had a lower turnover.

All the libraries were seeking to expand the number of nonprofessionals in cataloging and in some cases to fill vacant professional positions at the higher nonprofessional levels. Supervisors interviewed at the five libraries voiced considerable interest in LTA training programs which would ease the burden of recruitment and reduce the amount of time spent in on-the-job training, a dubious investment under conditions of high turnover (151).

SUMMARY

Studies which have attempted to examine manpower in special libraries invariably agree on the difficulties of studying special libraries. Problems cited include: the lack of complete directories or lists of special libraries; the difficulties of applying uniform measures to diverse environments, a great variety of services,

and special collections; the question of defining the professional in the special library; and the corporate policies which affect special libraries' cooperation.

Some of the research on special library manpower very clearly shows these difficulties. And researchers have excused poor results by citing them. Nevertheless, enough research has been successful to indicate that workable parameters can be found and useful data compiled. The existing research, then, is of as much interest for what it shows should and can be learned as for what it actually says.

The total number of nonprofessionals employed in special libraries is probably somewhat lower than 17,000--the number of nonprofessionals reported in the 1970 SLA Salary Survey which included other types of libraries.

The overall ratio of professionals to nonprofessionals is 4:6 by a 1963 estimate. The ratio of clerk to LTA is about 2:1. However, there are great differences by size and subject area of library.

By all indications, the majority of special libraries are one or two-man operations. But around a quarter of special libraries have staffs of five or more. Again, there are variations to the overall pattern by subject scope of library.

In looking at statewide studies of library manpower, the study conducted in Tennessee which based classification on the ALA definitions of staff clearly indicated the need for classification criteria for special library personnel which accurately reflects the functional composition of the staff.

The Indiana study of nonprofessional personnel seemed to adequately represent library technical assistants and library clerks in special libraries with LTA/clerk ratios and salary averages comparable to estimates found elsewhere.

While regional and local studies have the potential of allowing a more detailed analysis of relatively fewer positions, practical application to the local employment picture, and the opportunity of communication and cooperation with libraries in the research, few of these studies have been made and even fewer have exploited these advantages.

Surveys of health sciences library manpower have been carried out in the last three years by the American Medical Association, American Hospital Association, and the Health Sciences Library Manpower Study. Within the universe of libraries serving the health sciences, there were significant differences in staffing patterns by type of library--hospital, company, educational institution, etc. Within each of these types, definite staffing patterns can be discerned.

For instance, medical school libraries, which constitute 3.6% of all health sciences libraries, account for 21% of all professionals and 38% of the nonprofessionals. Hospital libraries, 60% of health sciences libraries, account for only 40% of the professionals and 18% of the nonprofessionals (152). Hospital libraries were found to rely heavily on voluntary help, with almost half of all workers either contributory or volunteer.

The educational background of nonprofessionals in health sciences libraries outside of hospitals ranged from 26% with high school education, 29% with some college, 20% with a bachelor's degree, to 13% with graduate work and 10% with graduate degrees. Only a small proportion had majored in the health sciences and only 11% had worked in health sciences libraries before. The high educational attainment in the nonprofessional group may be due in part to the study's definition of the professional as a person with a degree in library science.

One particularly interesting finding was that the educational needs perceived by the nonprofessionals correlated closely with the chief librarians' perceptions of staff deficiencies. Areas of most interest were reference services, selection and acquisition, organization of materials, automation, and circulation.

Application of a Job-Task Index designed to measure the involvement of personnel in professional and nonprofessional activities resulted in the conclusion that health sciences library personnel are often employed in tasks inconsistent with their status, especially when professionals are engaged in nonprofessional tasks.

The findings in regard to the status of the nonprofessional in health sciences libraries may be inflated and somewhat confused by the definition of the professional and the lack of provision of a category for subject specialists. The findings do, however, establish the magnitude of the work force, the educational background, and the awareness of a need for continuing education for nonprofessionals in health sciences libraries. The Health Sciences Libraries Manpower Study might also serve as an example of what can be done when research is limited to a relatively homogeneous group of libraries.

A survey of a small number of scientific or technical libraries in industry found that most nonprofessionals in these libraries had only a high school education, none had any science library experience, and 86% had no prior library experience at all. Almost 75% had no formal on-the-job training. The library administrators were generally satisfied with these qualifications.

The most commonly reported duties were secretarial, typing, periodical maintenance, acquisition, circulation, filing, and shelving.

Finally, a survey of the use of nonprofessionals in cataloging in large university libraries indicated good success in training nonprofessionals to do some of the work which has been considered professional.

It is foolhardy to draw grand conclusions from the evidence of this scattered research. A few observations do stand out and indicate directions which it might be profitable to pursue.

Most nonprofessionals enter special libraries without prior library work or subject experience. For the most part, on-the-job training is sink-or-swim, with few opportunities for formal training which would advance nonprofessionals' skills, enhance their value to the library, and commit them more deeply to their work.

There are some indications that there are a considerable number of nonprofessionals with some college education in some types of special libraries. In one study, 19% of the nonprofessionals had progressed beyond high school; in another, almost 75%. In one local survey 39 of the 43 nonprofessional positions in special libraries

called for either junior college or further education or prior library experience.

While most head librarians claim to prefer to train on-the-job, they also express great interest in formal training programs or continuing education for nonprofessionals. They also perceive areas of deficiency which could be remedied by such training. At the same time, they are not aware of locally available offerings and are confused as to their appropriateness for their particular situation.

Very few studies have touched on librarians' opinions of, attitudes toward, or experience with the formally trained library technical assistant. The same ambivalence toward formal training for LTAs exists as for nonprofessionals in general. Yet library administrators admit that professionals are performing nonprofessional tasks. And the research thus far fails to indicate that the LTA is usurping professional functions, is priced out of the nonprofessional salary range, is overtrained for nonprofessional duties, or is even employed at a level consistent with his training. If there is a substantial market for nonprofessionals with post-high school education, then it would appear that the LTA graduate would have a dual advantage in this market in his library-oriented junior college education and his prior commitment to library work through selection of the LTA program.

4. RESEARCH ON TRAINING OF NONPROFESSIONALS

In reviewing the literature, one finds many suggestions of methods of training nonprofessional library workers but almost no research on their actual use or effectiveness. Surveys of professionals and nonprofessionals which raise the question of training for nonprofessionals indicate there is interest in alternatives to on-the-job training but that very little is actually known about even the availability of possible alternatives to the do-it-yourself approach.

Undoubtedly informal on-the-job training is the primary method of educating the nonprofessional. Formal on-the-job or in-service courses may be given in larger libraries. There have been special courses and institutes such as the American Hospital Association's institutes in librarianship directed to those without training who are already administering hospital libraries (153), the course for beginning librarians given by the Boston Chapter Science-Technology Group (154), and the workshops for library assistants sponsored by the San Francisco Bay Region Chapter of SLA (155).

In-service training can also be accomplished by use of the library techniques courses offered either locally or by correspondence. The Ballard School of the YMCA in New York City and the U.S. Department of Agriculture Graduate School in Washington, D.C., have offered such courses for many years. And, of course, there are the locally available courses from the junior college programs for library technical assistants.

Only two research reports were located on the topic of the availability, use or effectiveness of training methods for nonprofessionals. One report was on packaged instruction, the other, on the selective admission of nonprofessionals to graduate level core courses in library science.

PACKAGED INSTRUCTION FOR NONPROFESSIONALS

A project to research and develop instructional materials for on-the-job training in scientific and technical libraries was conducted by System Development Corporation under contract with the U.S. Office of Education and with additional support by the U.S. Army ATLIS project (156).

SDC developed three instructional packages. One was an introduction to systems analysis, directed to professional librarians. The other two, designed for nonprofessional library personnel, were on reference tools and services and Russian-to-English transliteration. Subjects for testing these two instructional packages were drawn from nonprofessional personnel in scientific and technical libraries in government, industry, and universities. Also included were a group

of college students who approximated new trainees employed in libraries at the technician or assistant level with a minimal prior exposure to the subject matter of the instruction.

Both of the nonprofessional instructional packages were tested on control groups as well as experimental groups. In each case, the experimental group was given the instructional package. The reference tools control group spent an equivalent amount of time in independent study of the references tools presented in the instructional package. The transliteration experimental group received sequenced, programmed instruction while the control group used a random sequence of the same materials (157).

Results, indicated by comparison of pre- and post-test scores, showed that, for the reference tools groups, considerable learning occurred in both groups. The experimental group's performance was at least marginally better than the control group's and it was concluded that the added directions and exercises of the experimental treatment did contribute to the learning experience (158).

Both the experimental and control treatments of the transliteration training also proved to be considerably more effective than the sporadic experience provided by informal experience with transliteration. The sequenced instruction was found to be considerably more effective in producing lower error rates in the post-tests (159).

Personal reactions to the instruction were obtained from the subjects. The general reactions of the nonprofessionals to the instruction were largely complimentary and approving with respondents indicating an interest in the subject content and a liking for the instruction (160).

SDC concluded that such instructional materials or packages were effective and a viable prospect for further inquiry and development in additional areas of need for on-the-job training of library personnel (161).

GRADUATE LEVEL COURSES FOR NONPROFESSIONALS

For some time, the Graduate School of Library Science of Drexel Institute of Technology offered a program for what it termed library technicians. At the time of the survey of Drexel's experience with the program, it had been in operation for five years and had had 69 enrollees (162).

The Drexel program was designed to introduce library education to persons interested in librarianship but lacking a college degree. The curriculum was based on the four introductory courses: Cataloging and Classification, Basic Reference Sources, Library in Society, and Selection of Library Materials (163).

The program was expected to attract nonprofessional library workers and of the 69 enrollees, 45 or 65% held library positions. Most were nonprofessionals but several were considered to be filling professional positions and a few were head librarians in schools or business firms, 16 % held other types of jobs and the remainder were not employed (164).

Almost 75% of the enrollees took only one or two courses.

Only 16% took 3 or 4 and only 10% took additional work beyond the basic program. The majority (55%) failed to make grades above 80 or B, although they did make grades about 70 or C. Students who had had some college were found to do slightly better than those with no previous college work (165).

SUMMARY

The area of alternative approaches to training nonprofessionals has remained largely unexplored. Short introductory courses have been given by some SLA Chapters and have been reported to be successful. Such courses in library techniques as those offered by the Ballard School in New York City and the U.S.D.A. Graduate School have also prospered for many years. But despite the praise, no solid data are available on the use and effectiveness of these courses.

A study of two instructional packages--one on Russian-English transliteration and one on reference tools--demonstrated that this approach to on-the-job training can be effective and well-accepted by the users.

Evaluation of the use of the core curriculum at Drexel for the education of nonprofessionals showed that the offerings did attract nonprofessionals as well as some nonprofessionals who held professional positions. Their performance in the courses, however, was not exceptional and few completed the basic program although applicants were screened before admission to the program. It could be suggested that this poor showing and the discontinuance of the program are due to the fact that graduate level courses are not particularly appropriate for training nonprofessionals in basic routines.

5. TASK ANALYSIS

The optimal utilization of library manpower cannot be achieved without a clear understanding of the tasks to be performed and the types of personnel needed to perform them. If each of the myriad tasks needed to make the library function can be identified and the training and experience necessary to its performance can be specified, it is then possible to identify the types of personnel needed to perform these tasks, to recommend what level of education preparation is needed, and to provide guidance for the content and depth of the curriculum at the various educational levels.

This is, indeed, a very large order, but substantial research efforts are being made in the area of task analysis in the library community, which, hopefully, will be of great benefit.

Work has been done in the past in determining which library duties are professional and which are nonprofessional. A detailed analysis was issued in 1948 by the ALA Board on Personnel Administration. The Descriptive List of Professional and Nonprofessional Duties (166) was intended to be useful as an aid in making job analyses, improving assignment of duties, and preparing position descriptions.

Such documents as the SLA Objectives for Special Libraries (167), Profiles of Special Libraries (168), ALA's "Library Education and Manpower" policy statement (169), and the Criteria (170) for LTA training and its predecessor "Deininger Report" (171) all provide general frameworks for analyzing work levels and job classifications.

Individual libraries may also have formal job descriptions or classifications, but many libraries do not. And in practice, research as well as common sense tells us that library manpower is not used to its best advantage.

The research tool of task analysis is relatively new and is just beginning to be applied to library work. There are various methods of task analysis and the research reviewed here falls into two types: 1) Task analysis which attempts to measure who is doing what; and 2) Task analysis which attempts to measure who should do what.

WHO DOES WHAT

The Health Sciences Library Manpower Study developed a Job-Task Index to measure the professionalism of a subject's health sciences library work involvement (172). (This project is also discussed in the section on nonprofessional manpower.)

The Job-Task Index was not designed to provide an analysis of library tasks in terms of their requirements but was constructed as an abbreviated inventory of tasks to be applied to individuals.

Index scores indicated the extent to which the individual subjects were involved in professional or nonprofessional activities. The authors did suggest that the Index would be a useful tool in the total study of manpower utilization in libraries as a measure of performance and match against such variables as job involvement, educational attainment, income, and experience (173).

In the Job-Task Index, 27 library-related tasks were selected to represent the range of library jobs. Each task was assigned a rating denoting the extent of education or degree of professionalism involved. The result was four task groups: high professional; low professional; high nonprofessional and low nonprofessional. Subjects rated their involvement (primary, secondary, or no involvement) for applicable tasks. These ratings were given weighted numbers, ranging from +4 (primary involvement in high professional task) to -4 (primary involvement in a low professional task). The subject's Job-Task Index score was found by adding the scores on all tasks checked and dividing by the number of tasks checked (174).

These scores were analyzed for 116 health sciences libraries with five or more respondents. It was assumed that this was the minimum size staff that could show a measurable division of labor. Results were tabulated on the basis of educational attainment, income, and age.

The general conclusions drawn from the data were that library personnel are often involved in work inconsistent with their professional status, income, and age. This results in loss of professional status and the failure to develop a career ladder for professional librarians based on income and experience (175).

The School Library Personnel Task Analysis Survey, Phase I of the School Library Manpower Project (also known as the Knapp project) was designed to identify the tasks performed in elementary and secondary school media centers by the type of personnel performing them. This project was initiated by the American Association of School Librarians, a division of ALA and an associated organization of the National Education Association.

Three hundred tasks were listed on a checklist in twelve categories of duties. Examples of the duty categories are: development of educational programs, administration, acquisition of materials and equipment, circulation of materials and equipment, clerical and secretarial tasks, etc. The distribution of tasks was among personnel in the five staff positions: heads of media centers, assistant librarians, audio-visual specialists, technicians, and clerks or aides.

The checklist was sent to a "purposive" sample of "outstanding school libraries with programs of unified library-audio-visual service utilizing varied types of materials and equipment" (177). The thinking behind this was that such a sample would provide a benchmark of manpower utilization in school libraries for guidance in job analysis, education for school/media librarianship, and recruitment. The Task Analysis Survey was not a final report, but rather a source of basic data for the School Library Manpower Project.

On completion of the task analysis survey, two committees undertook analysis of the results. One was the Task Analysis Committee

which analyzed the tasks as reported in the survey and reassigned many tasks and responsibilities upward or downward to effect a more meaningful approach to the development of occupational definitions for school library media personnel. The Committee's charge included the use of a career ladder approach in the development of the definitions and the identification of the impact of the definitions on education (178).

The second committee, the Curriculum Content Committee, building on the new occupational definitions, developed guidelines for the areas of competency needed by school library media personnel and suggestions for curriculum content (179).

Phase II of the School Library Manpower Project was initiated in 1971 by the award of grants to six library education programs to implement and test the recommendations developed in Phase I. The Project is to be completed in 1973 with final recommendations for the future of school library/media personnel education (180).

The School Library Manpower Task Analysis Survey also found that marked differentiation of tasks was not evident until staff size reached a certain level--in this case, three or more persons (181).

WHO SHOULD DO WHAT

The Illinois task analysis study (182) was based on a different premise than the studies described above. It sought to identify library-related tasks in terms of the inherent demands made on the worker, not in terms of the qualifications of the worker who actually performed the task (183). In very simple terms, instead of identifying who is doing what, the Illinois study sought to determine who should do what.

The Illinois task analysis study was conducted by Social, Educational, Research and Development, Inc. on behalf of an advisory committee representing the Illinois Library Association's Ad Hoc Committee on Manpower Utilization and Training and the Library Education and Library Administration Divisions of ALA. The intent of the project was to identify and analyze the tasks performed in libraries as a first step toward providing instruments by which library administrators could plan more effective use of professional personnel and by which library educators could obtain guidelines for planning educational and in-service training programs for nonprofessionals. It was expected that the study, although conducted in Illinois, would have applicability for the entire profession, not just the state of Illinois (184).

Eighteen libraries of all types were included in the study. Three special libraries were included: an advertising agency library, a science library, and a hospital library. Each library was strong in service and multi-staffed. A total of 116 individuals, ranging from custodial levels to head librarians were interviewed (185).

Data were collected by personal interview, using survey instruments and methodology based on the U.S. Department of Labor's method of functional job analysis (186).

The study identified 1,615 tasks performed in the 18 libraries. Each task was analyzed in terms of the requirements placed on the worker and rated according to 15 scales in the areas of performance standards, task environment, worker functions, general educational development, instructions given, training time, time required to complete the task, and physical demands. Thus each identified task has an 18 digit code, indicating the level of its requirements in each of these areas (187).

As in the School Library Manpower Project task analysis (188), the Illinois task analysis survey provided the basic data for succeeding phases of study. In the case of the Illinois study, the second phase of the study concentrated on the interpretation of the tasks, rearrangement according to their scale values, and evaluation of these rearrangements to put the results in a usable framework (189).

In the third phase of the study, now underway, a handbook of library tasks has been prepared. The handbook, now in draft stage, is designed as a tool whereby library administrators in all types of libraries can evaluate their present staff assignments against the criteria of the level of training and professional expertise the individual tasks require.

Possibilities for application of the handbook include: restructuring of library jobs to produce a more rational utilization of workers, producing new job descriptions, providing "new careers" within library work as people advance, the development of a wide variety of relevant curricula, ranging from the junior college to the graduate level and from short to extensive pre-service and in-service training programs.

Three workshops across the country were planned for the fall of 1972 to allow librarians to evaluate the draft before publication, scheduled for late summer 1973 (190).

Evaluation of the success of this approach to task analysis and assessment of its value for special libraries must await publication of the handbook.

SUMMARY

The concept of task analysis is being applied to library work and shows promise of being of great value in the efficient utilization of manpower through restructuring of jobs to better fit training and experience and more relevant training for all levels, and a better overall understanding of the work in which library personnel are engaged.

Task analysis as a research tool has been applied in different ways. In the Health Sciences Library Manpower Study, a Job-Task Index was constructed to measure the extent to which individuals were engaged in a predefined range of professional or nonprofessional activities. With further refinements and more applications, the Job-Task Index may prove to be an interesting and useful tool in the broad measurement of manpower utilization.

The School Library Manpower Project Task Analysis Survey and

the Illinois Task Analysis Study covered library work in greater depth but from different bases. The School Library Manpower Task Analysis Survey was based on a predetermined list of library tasks and reported what types of personnel in school libraries performed these tasks. The Illinois study, on the other hand, based its analysis on tasks observed, defined, and rated by 15 variables, in actual situations in 18 libraries, including special libraries. This approach resulted in the ability to rate tasks by the qualifications needed to perform them.

The Illinois study may have particular impact on the library community with the publication of the proposed handbook of library tasks which would provide a basis for restructuring library jobs and guide educators in planning educational programs of all kinds and at all levels.

6. PARAPROFESSIONALS IN OTHER FIELDS

Advancing technology, increased demands for services, and professional manpower shortages have contributed to the emergence of technicians or paraprofessionals in many fields. Concomitantly, professional associations in these fields have become concerned with the role of the paraprofessional and with the formal training programs which are being established.

While the specific role of the paraprofessional may vary from field to field, the common function of the paraprofessional is on a middle level between the professional and the skilled or unskilled worker or clerical staff.

The experience with paraprofessionals in service fields other than librarianship and the insights gained by research on the effects of paraprofessionals in these fields may be of great value in suggesting areas of concern for librarians.

There is a wealth of research on paraprofessionals in such fields as education, health, and social service. It would be impossible to encompass all the research in this paper. Indeed, the research projects themselves are not of as much relevance as the conclusions drawn from them. This chapter, therefore, will attempt to describe the basic character of paraprofessional use in the human service areas of education, health, and social services, and pinpoint such conclusions drawn from the research as seem relevant to the study of paraprofessionals in library service.

NURSING

In a certain sense, nurses may be viewed as the technician level of medical service with physicians as the professionals. But there is a distinct separation between the two careers and nursing has become a profession in itself with its own hierarchy of supportive staff.

The supply of nurses has long been insufficient to meet the demands for nursing service and despite the growth in the nursing profession, demand still exceeds supply. Licensed practical nurses, first trained primarily for home care, began to be generally employed in hospitals during World War II. Other layers of assistants have been added: attendants, nursing aides, orderlies, etc. (191). One recent estimate found that between 1967 and 1968, the number of registered nurses increased 3%; licensed practical nurses, 7%; and aides, orderlies and auxiliaries, over 14% to a total figure of 800,000--a group larger than the number of registered nurses and almost as numerous as RNs and LPNs combined (192).

Education for nursing has also undergone substantial change. For a long period of time and for various reasons, nursing education

was affiliated with hospitals. While hospital-affiliated diploma programs are still an important factor, college and university baccalaureate programs are growing in importance and in 1966 the American Nurses' Association adopted the position that nursing education should take place in institutions of higher education. The minimum requirement for the professional nurse was specified as the baccalaureate degree. The ANA also formally recognized the need for technical assistants for whom the educational requirement should be junior or community college associate degree programs or short, intensive preservice programs in vocational education institutions (193).

There are problems with divorcing the student nurse from the extensive work experience in the hospital affiliated school and at the technical assistant level where the junior or community college must provide specialized environments for health service training, and much opposition to the removal of training from the hospital has been voiced by the medical profession (194). But the important point is that the ANA has actively attacked the problems of education for nursing personnel.

The great proliferation of nursing assistants was designed to ease the shortage of RNs. Research studies on the use and effectiveness of these paraprofessionals indicates that they can effectively perform many of the routines of patient care (195).

But, it is now recognized that the addition of paraprofessionals has not resulted in a more efficient use of professional manpower. Various studies have found that up to 75% of a nurse's time is spent in administrative or other tasks which do not call upon professional skill in patient care (196, 197). The National Commission for the Study of Nursing and Nursing Education has observed that the nursing role has not been adequately defined. Are nurses to function as physician's assistants in patient care or as administrators? Nursing administration and patient care, the Commission points out, may be separate career paths for the RN. But if one professional goal is patient care, then the functions of the professional nurse must be restructured to meet this goal and the duties of paraprofessionals should support this goal rather than usurp it (198).

Many feel that nursing would be a more attractive profession and would draw more former nurses back into it if paraprofessionals could be used to perform administrative and housekeeping functions. While much patient care is routine, it does allow the RN to establish better communication with the patient and further her effectiveness in the patient care role.

SOCIAL WORK

In the field of social work, nonprofessionals by far outnumber professionals with advanced degrees in social work. Only one in four social workers have two or more years of training; in public assistance agencies the ratio rises to one in twenty (199).

The paraprofessional social worker emerged in increasing numbers in the 1950s. These workers were of two distinct types. The first type is the college education middle class paraprofessional

with some training in social services. The second type is the indigenous worker, a member of the community served, usually lower class, and without higher education.

The use of the paraprofessional in the organization and delivery of social services is based on five major premises: 1) To create new employment opportunities for low income persons; 2) To alleviate the professional social work manpower shortage; 3) To reduce staff costs in agencies; 4) To respond to pressures from the environments in which social service agencies operate; 5) To improve the delivery and quality of services (200).

Experience and research have concluded that paraprofessionals are able to perform 80-90% of the direct service tasks previously performed by professionals. Even more important, the paraprofessional, particularly the indigenous worker, has been found to be extremely effective in his ability to communicate with clients, to have an ease of contact with the community, in providing role models for clients, and in acting as a modifying force on the professional as he evaluates traditional requirements in view of the paraprofessional's special knowledge of the community (201).

The effective role with the clientele that the paraprofessional plays in social service has released the professional to spend more time in planning, consultation, and coordination.

In the mid 1960s the National Association of Social Workers and the Council on Social Work Education addressed the issues raised by the use of paraprofessionals. These professional associations have endorsed the use of paraprofessionals, recommended roles, stressed the need for career mobility, and developed guidelines for two-year educational programs (202).

Training programs have proliferated. In 1969 there were 50 social welfare programs in community colleges, serving almost 4,000 students. By 1970, an estimated 20,000 were believed to be enrolled (203). Such educational programs are very much encouraged in social work as being in keeping with the concept of new careers and upward mobility for the poor. Although much concern is voiced within the profession that the special values of indigenity might be impaired, the conclusions drawn thus far are that the paraprofessional draws from the professional while maintaining his own links to the community, thus increasing rather than decreasing his effectiveness (204).

The professional role has not been clearly delineated in social work. However, unlike nursing where great concern has been voiced that the paraprofessional has usurped the professional role (albeit by default), in social service the profession seems to recognize the effectiveness of the paraprofessional in the service function and sees the professional role as one of supervision, planning, and coordination.

EDUCATION

In education, the use of paraprofessionals as teaching aides or classroom assistants has found rapid acceptance, particularly

in the elementary grades. A 1968/69 survey of 1,199 school districts with 12,000 pupils or more (not including New York City) found 799 districts using 40,295 paraprofessionals with a ratio of 0.26 aides per teacher. The most frequently given functions of these paraprofessionals were: classroom secretarial, lunchroom monitoring, test and homework correcting, and playground supervision.

A study in Bay City, Michigan, found that teachers were spending from 21 to 69% of their time on nonteaching chores. The addition of teacher aides resulted in more time for the teachers to prepare lessons, individualize instruction, and increase recitation and discussion time. Parents were unanimous in agreeing that children enjoyed school more and learned as much or more after the addition of the aides. Other studies have shown that aides do contribute to better pupil performance both indirectly through allowing the teacher more time for teaching and directly through such benefits as the presence in the classroom of another adult, indigenity, or instructional support.

Although recent research on the duties of teacher aides has indicated a slight increase in instructional activity, other studies report that while teachers prefer to have aides, few favor any instructional functions for the aides.

Both the National Education Association and the American Federation of Teachers have supported the use of paraprofessionals. The AFT locals actively recruit paraprofessional members (205).

MENTAL HEALTH

Paraprofessionals in mental health services may be found in the health care environment as psychiatric aides in hospitals and related institutions or in the social service environment of community mental health services. In the hospital environment, psychiatric aides function largely as supportive staff. In the community settings, paraprofessionals in mental health work are comparable to those in social service. They may be either college graduates from the middle class or indigenous workers.

Research studies of mental health programs have found that paraprofessionals are as effective and often more effective than professionals in therapeutic client care. They have been found to demonstrate greater warmth and empathy and to have a greater motivation and enthusiasm for client contact than professionals. A survey of directors of National Institute of Mental Health Projects found that only 32% of the directors preferred to use professionals in routine client contacts. A 1969 survey of 80 community mental health centers found that 42% of all full-time personnel were indigenous workers. In drug abuse programs this percentage rose to 60%; in geriatric services, 70%.

As in social service, mental health paraprofessionals were found to contribute in many ways--reaching new people, offering new services, providing the professional staff with new viewpoints and a better understanding of the client group.

In 1965 an NIMH grant inaugurated a two-year mental health

paraprofessional program at Purdue University. By 1970, there were 57 programs. Professional groups in the field have endorsed paraprofessional education programs and career ladders. Some have recognized paraprofessionals by membership in the association or through affiliated groups.

Again paralleling social service, the relationship of professional and paraprofessional roles seems to be satisfying the goals of both groups (206).

SUMMARY

This review of the research on paraprofessionals in other fields has been necessarily brief and simple. However, it reveals many common attributes of the emerging paraprofessional and some significant differences which have relevance to the library profession.

The paraprofessional most commonly appears and functions in a field before any professional concern is expressed over his role or any formal training developed. However, once professional associations come to grips with the emergence of the paraprofessional class, they take an active part in recommending career ladders and educational programs, basing their action on their "right" as a professional association to regulate requirements for workers in the field.

Most research has centered on attempts to measure the effectiveness of the paraprofessional and is usually based on individual programs or projects. Although there is universal agreement that there is a need for better definition of the professional and paraprofessional roles and for some type of task analysis, little headway seems to have been made.

Nursing has one of the longest histories of the use of paraprofessionals and demonstrates some interesting problems in the professional/paraprofessional relationship. The use of paraprofessionals to perform many routines of patient care has relieved the professional of an overload of work. But it is beginning to be recognized or argued that it is not the right part of the overload. If, as it has been hypothesized, one of the professional goals of nursing is patient care, then the paraprofessional has moved the nurse further from this goal rather than closer. Although many of the routines of patient care may be competently performed by paraprofessionals and some could remain the function of the paraprofessional, the professional nurse must regain others to reestablish her role.

In community social and mental health work, on the other hand, the paraprofessional's function seems not to interfere with the professional; indeed, it enhances the professional's understanding of the problems of his clients and allows him to function at a higher level compatible with the goals of the profession.

Education is a field in which professionals seem to have had the clearest sense of professional goals and functions and have assigned to the paraprofessional supportive rather than teaching tasks from the very beginning.

As in librarianship, formal education programs are in their

early stages in these fields so their impact has yet to be assessed.

And, although the various professional associations have all endorsed the idea of upward career mobility and suggested possible career paths, their success is yet to be demonstrated.

7. RECOMMENDATIONS FOR RESEARCH

The first part of this review was devoted to summary and analysis of research on nonprofessionals in special libraries with emphasis on the emerging category of library technical assistant. Research was defined to include compilations of statistics on personnel because these statistics provide a revealing, practical base for the conduct of research.

This second part attempts to identify what we need to know about nonprofessionals in special libraries, using the knowledge gained in the first part as a base, and suggests needed research to fill the gaps. In some cases, research is already underway or the appropriate response is not research but action.

The criticisms commonly made about research in library science are certainly applicable to research on personnel in special libraries. There is a lack of basic research. There is a lack of good research. The dissemination and bibliographic control of research leaves much to be desired although the ERIC/CLIS services have accomplished much to improve this situation.

A good deal of the research on personnel in special libraries was found in studies which covered all types of libraries. The comprehensiveness and utility of the special library segment of these studies varies enormously. Best results were obtained where special librarians were actively involved in the planning, execution, and interpretation of the research so that adjustments, if needed, could be made for the special library sample.

A number of studies which attempted to include special libraries along with public, school, and academic libraries simply gave up on special libraries, dismissing them as small or unimportant in the total picture. The reasons behind such excuses were that special libraries were difficult to locate, often the measures applied to other libraries were not appropriate, or, in the case of research based on secondary sources, adequate data did not exist.

Even special librarians seem to believe--almost proudly--that special libraries do not provide a good ground for research because of their diversity and the inappropriateness of measures used for other types of libraries. But special librarians, more than anyone else, stand to lose by this attitude.

Special libraries and special librarians could gain in both status and usable research results if they would actively cooperate in research studies of all types of libraries, advise researchers on the most meaningful ways to study special libraries, compile local and regional directories of special libraries so they can be located for samples, prepare definitions and measurements which adequately describe special libraries, and collect and report statistics which can be used as the basis of future research.

Research dealing with special libraries alone is, naturally,

of primary interest to special librarians. But research conducted in the general library community and research which includes the special library as part of the library community both have much relevance for special libraries and deserve attention.

Although the emphasis of this review is on the nonprofessional, it is obvious that the nonprofessional is but one aspect of the problem of manpower, manpower utilization, and manpower requirements. Inevitably we must consider the nonprofessional in the light of the total special library manpower environment from the lowliest clerk to the highest level professional and all the hierarchies and relationships in between. Research must examine the whole range of library manpower in order to place each level of worker in the proper perspective.

Much of the research recommended here is of a very practical nature. But there is also a definite need for research which will reveal the theory or philosophies of special librarianship. While the former type of research may be of more immediate value, the latter cannot be ignored if the special library profession is to meet its goals.

If any priority at all may be assigned, the most pressing need is for the collection of special library personnel statistics--a census of special library manpower. There are two reasons for this. First, we simply do not know how many workers there are in special libraries, what kinds of positions they fill, what qualifications they have, or how they are distributed geographically or in libraries by size.

The second reason is that the National Center for Educational Statistics, U.S. Office of Education, is developing a Library General Information System (LIBGIS), a national library statistics data program intended to measure resources, personnel, expenditures, service population, physical facilities, and library activities (207). Such statistics could be invaluable. But, authorities have already stated that LIBGIS cannot provide adequate personnel statistics to meet the needs of professional planning. The initiative and responsibility for the availability of personnel data must lie with the national library associations (208).

SLA's Standards Committee reports that it is involved in liaison with the various federal programs engaged in collecting library manpower statistics and is organizing an SLA manpower survey (209). The importance of this Committee's work is unquestioned. It is laying the groundwork for the future of research in this area.

Although the Standards Committee is undoubtedly concerned with how to define the professional in special libraries, this is another area in which research is needed. It is certainly revealing to measure special library personnel against such criteria as the ALA Manpower Policy or SLA Objectives or membership qualifications to determine how well we meet such qualifications, but it does not present an adequate description of the reality of the marketplace.

This Committee's work should receive the support and cooperation of every member of SLA. The results of the Committee's work should be widely disseminated. SLA and its units should make every effort to see that those engaged in library research have access to the

statistics on special libraries, directories of special libraries, and advice on how best to work with special libraries.

The area of specialists--either by subject or technique--in the special library has been totally ignored. Research could reveal, by subject area, the types of specialists found. Both the SLA Objectives and Profiles suggest the different types of specialists. This would appear to be a natural research field for SLA's subject-oriented Divisions.

Manpower research on a local, regional, or state basis could provide valuable information on the special library employment picture since it has been found that geographic mobility is low for both professionals and nonprofessionals. Local studies could focus on the number of nonprofessionals employed, job qualifications, salaries, the types of libraries, and special skills required. These results would aid in making local projections of manpower needs, suggesting appropriate curricula for area LTA programs, determining salary levels, or planning short in-service courses for nonprofessionals. SLA Chapters are logically suited to conduct such studies.

Another wide-open and potentially valuable area for research is in the training of nonprofessional workers. It has been stated that our manpower problem may not be a problem of quantity but of quality. And librarians frequently cite lack of both subject and library work trained staff as handicaps. Development of training programs for nonprofessionals would aid in solving these problems.

Research topics might include: How much and what kind of on-the-job training is really offered in special libraries? What alternatives are available in a geographic area, and how good are they? What sort of in-service training could be offered to nonprofessionals and what subject areas would be most appropriate? Are there significant differences in effectiveness, interest in library work, or job tenure between nonprofessionals trained on the job and those who have trained in formal programs?

Research to date has not supported or refuted arguments for or against LTA programs. There simply have not been enough traceable graduates with enough job tenure to study the long term effects of LTA programs. The few studies conducted have not shown that salary levels or job expectations or responsibilities are out of line with some existing nonprofessional positions. However, as the number of experienced LTAs increase these points can be studied more clearly. Other questions can also be asked. What career paths do LTAs follow? Are they satisfied with a nonprofessional career? Do they proceed to professional education and professional careers? There is some evidence that LTAs are in professional positions but these could be discovered to be nonprofessionals already performing professional duties and taking formal training in LTA programs.

Research is particularly needed on LTA graduates in special libraries to demonstrate the roles they play and investigate their career mobility.

Research could be conducted on LTA program students. Who are they? Why are they taking LTA courses? Why do so many seemingly drop out before completion of the program? Answers to these questions could also suggest the types of people to which recruitment efforts

could be directed.

As mentioned earlier, SLA Chapters could survey LTA programs in their areas and evaluate their offerings in terms of local special library needs. Another unanswered question about LTA programs is to what extent are they being used for in-service training for nonprofessionals already employed in libraries?

Special librarians are involved in LTA programs at the local level. Special librarians are teaching in some programs, some are serving on advisory committees. What are their experiences? What about special librarians who have already hired LTA graduates? Such programs as the Ballard School and U.S.D.A. Graduate School have been in existence for a long time and research directed to special libraries in New York and Washington might tell a good deal about the impact of these programs over time.

Once the Illinois Task Analysis Project handbook is published, it would be an excellent basis for some special library task analysis studies.

It would be interesting to see more applications of the Job-Task Index developed for the Health Sciences Library Manpower Project.

From all indications given in the various task analysis studies, there is a minimum staff size, usually 5, for meaningful separation of professional and nonprofessional duties. Available statistics show that most special libraries fall below this minimum. Does this then place most special libraries outside the pale of efficient manpower utilization? Could not some kind of analysis be made of tasks and/or personnel in two and three man libraries which would aid in determining an efficient manpower mix? For example, in a two-man special library, what are the relative values of a professional/clerk, professional/LTA, or (heresy) LTA/clerk mix? In a three man library, should another professional, another clerk or an LTA be added? As a matter of fact, research might very profitably examine the role of the nonprofessional in the small library to see the effect of such close contact with the professional on training, interest, and tenure. How many assistants do you know of who have taken over a library after the professional has left? Why?

Study of paraprofessionals in other fields has shown that task analysis is extremely important in using manpower efficiently. We have already seen that basic work on task analysis in libraries has been done which will hopefully be relevant to special libraries. Thus special library research might concentrate, as suggested earlier, on the application of the results of the Illinois study to special libraries.

Much of the research on paraprofessionals in the human services fields has been devoted to the effectiveness of the paraprofessional and is based on small studies of individual projects or programs. This type of design would be difficult to apply in special libraries where only a few LTAs may be present in any one library. In this area perhaps research conducted in other types of libraries where LTAs are present in greater numbers can be of value.

In addition to asserting their responsibility for education and standards for paraprofessionals, the professional associations in these fields have also taken various approaches to paraprofessional

groups, either through opening their own memberships, establishing associated groups, or affiliating with paraprofessional organizations. Similar possibilities have not received much attention from library associations.

However, there have been some nonprofessional library worker groups formed for the pursuit of common interests in career advancement and training. The Society of Library and Information Technicians (SOLIT) was organized in 1966 and is open to anyone employed as a library or information technician (210). Arizona Library Affiliates was organized by nonprofessionals in 1970 in the Phoenix area and was planned for eventual statewide membership and affiliation with the Arizona Library Association (211). In Canada the Manitoba Association of Library Technicians was formed in 1971 (212).

There has been little coverage in library periodicals to show what progress these and similar groups in other areas may be making. The library profession might very profitably explore the ramifications of nonprofessional organizations and their usefulness in improving the quality of library personnel.

Considering the combined evidence of the interest shown by nonprofessionals in training as exhibited in the Health Sciences Manpower Study and the SDC instructional packages study, the formation of these nonprofessional groups, and the experiences of other professionals with such groups, it would seem that nonprofessional library workers in general as well as LTAs in particular have a potential for interest in and commitment to library work which is not being sufficiently encouraged by the profession.

Perhaps the most important problem to anticipate in the professional/paraprofessional relationship is the one of role definition. Again, research in other fields underlines the importance of role definition for the professional and consideration of professional goals in defining the role and duties of the paraprofessional.

Task analysis, while needed, is not the total answer. It has been demonstrated in field after field that paraprofessionals can be trained to perform many tasks formerly the province of professionals and even to perform them better. But transcending the assignment of functions on the basis of skill level is the assignment of functions on the basis of goals. In nursing it has been found that in the long run, the increase in paraprofessionals has led to the transfer of many tasks from the nurse to the paraprofessional but the nurse is just as far, if not farther than ever, from the goal of patient care. It is true that, in special librarianship, as in librarianship and in other professions, professional goals may include planning, coordination, and consultation which can be attained by freedom from certain functions which are transferred to others. But not all special librarians fill such relatively high level roles. Many have other roles. Their goals must be considered so that their roles can be defined and the proper paraprofessional support given. The paraprofessional cannot upgrade the profession unless the profession knows what it wants to do. In nursing, it is now apparent, by hindsight, that many routines contribute to understanding of the patient and should not be delegated. Special librarians must define their professional goals clearly

enough so that they can retain functions which might be delegated on the basis of training but should not be delegated on the basis of goals. Is this a problem for research or for professional soul-searching?

The list of needed research on the nonprofessional in the special library is almost endless. Research on nonprofessional personnel is going on in the library community and the results can be of great value to special libraries. But there is a very definite need for research centered on special libraries to answer questions about the special library environment. Special libraries stand to gain by being attuned to and participating in both of these research efforts.

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